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MINISTRY OF IRRIGATION AND POWER

REPORT
OF
THE KRISHNA GODAVARI COMMISSION

Annexure XII

Particulars of Irrigation and Hydro-Electric Schemes, in operation as on 31st March, 1951

Godavari River System

July 1962

सत्यमेव जयते

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FOREWORD

The data presented in this Annexure relate to irrigation and hydro-electric schemes on the Godavari river system, as on 31st March, 1951, and are based on the information obtained from the State Governments of Andhra Pradesh, Madhya Pradesh, Maharashtra, Mysore and Orissa supplemented, here and there, by information collected from project reports, administration and other reports and official correspondence between the State Governments and the Planning Commission or the Ministry of Irrigation and Power.

On some of the schemes which were in operation, as on 31st March, 1951, there have been subsequent changes and improvements, generally of a minor character. For convenience of presentation, these developments have also been described in this Annexure ; so are such proposals as the State Governments have now formulated with regard to improvements on these schemes other than those which are covered by a new project described elsewhere in the relevant Annexure.

Statement showing installed power, average annual irrigation and average annual diversion

Name of State/ Category of schemes	*Number*	*Power installed kW.*	*C. C. A. or Ayacut*		*Average annual irrigation*		*Average annual diversion*	
			1941-42 to 1950-51	*1951-52 to 1960-61*	*1941-42 to 1950-51*	*1951-52 to 1960-61*	*1941-42 to 1950-51*	*1951-52 to 1960-61*
			………………	………*acres*………	………………	………………	..(*T. M. C.*)..	
			Ayacut	*Ayacut*				
ANDHRA PRADESH								
Major and medium schemes	8	—	1,228,500	1,305,500	1,390,200	1,496,200	306.3	290.7
Minor schemes	116	—	111,646	111,646	62,866	84,119	86.5	92.0
Small tanks and diversions	15,547	—	538,919	538,919	455,675	467,866		
Total	**15,671**	—	**1,879,065**	**1,956,065**	**1,908,741**	**2,048,185**	**392.8**	**382.7**
MADHYA PRADESH			*C. C. A.*	*C. C. A.*				
Major and medium schemes	7	—	172,800	173,400	79,300	96,000	7.9	7.2
Minor schemes	11	—	26,200	26,200	8,800	10,500	12.3	12.6
Small tanks and diversions	9,080	—	143,600	143,600	114,360	114,360		
Total	**9,098**	—	**342,600**	**343,200**	**202,460**	**220,860**	**20.2**	**19.8**
MAHARASHTRA								
Major and medium schemes	10	—	743,000	743,000	189,200	204,500	32.7	34.1
Minor schemes	44	—	88,268	88,268	31,144	34,896	23.3	23.5
Small tanks and diversions	7,561	—	588,049	588,049	385,250	385,250		
Total	**7,615**	—	**1,419,317**	**1,419,317**	**605,594**	**624,646**	**56.0**	**57.6**

			Ayacut	*Ayacut*				
MYSORE								
Major and medium schemes	Nil	—	—	—	—	—	—	—
Minor schemes	Nil	—	—	—	—	—	—	—
Small tanks and diversions	22	—	1,069	1,069	1,069	1,069	0.2	0.2
Total	**22**	—	**1,069**	**1,069**	**1,069**	**1,069**	**0.2**	**0.2**
ORISSA								
Major and medium schemes	Nil	—	—	—	—	—	—	—
Minor schemes	15	—	11,967	11,967	6,000	6,000	1.4	1.4
Small tanks and diversions	128	—	20,526	20,526	11,000	11,000		
Total	**143**	—	32,493	32,493	**17,000**	**17,000**	**1.4**	**1.4**
Total of major and medium schemes	**25**	—	**2,144,300**	**2,221,900**	**1,658,700**	**1,796,700**	**346.9**	**332.0**
Total of minor schemes and small tanks and diversions	**32,524**	—	**1,530,244**	**1,530,244**	**1,076,164**	**1,115,060**	**123.7**	**129.7**
Grand Total	**32,549**	—	**3,674,544**	**3,752,144**	**2,734,864**	**2,911,760**	**470.6**	**461.7**

INTRODUCTION

1.1 After a preliminary study of the nature and extent of irrigation developments, existing and proposed, in the Krishna and Godavari basins and after general discussions with the representatives of the State Governments concerned, the Commission decided to classify all schemes and projects into the following four groups :

(*i*) Major schemes to include all power projects and such other schemes as would each irrigate 50,000 acres or more annually ;

(*ii*) Medium schemes—each intended to irrigate less than 50,000 acres annually but having an Ayacut or C.C.A. of not less than 5,000 acres ;

(*iii*) Minor schemes—each having an Ayacut or C.C.A. of less than 5,000 acres but not less than 500 acres ; and

(*iv*) Small tanks and diversions—each having an Ayacut or C.C.A. of less than 500 acres.

1.2 A form was drawn to show in detail such particulars of schemes and projects as were relevant to the Commission's work and the State Governments were requested to furnish the requisite data for each major and medium scheme in operation, as on 31st March, 1951. This form with explanatory notes, is shown in Section 2. It was, however, found that the information sought by the Commission was not readily available with the State Governments ; each State, therefore, set out to collect as much information as could be compiled in the time available.

Particulars of each major and medium project, as obtained from the State Governments, are given in Section 3. These were shown in draft form first to the representatives of the State Governments concerned, for verification. After appropriate modifications had been made, the revised drafts were discussed in a joint meeting at which the Commission had the benefit of comments made and views expressed by the representatives of other States. This led to some further changes, which have all been incorporated in Section 3. Some gaps in the data required still remained. These have been filled by the Commission ; the assumed figures are shown in brackets.

1.3 The significance of the index numbers, as given to each project in Section 3, is the same as explained in the Commission's Report.

1.4 Important particulars of all major and medium schemes arranged State-wise are given in Table I, including the average annual irrigation and the average annual diversion by each scheme during each of the decades 1941-42 to 1950-51 and 1951-52 to 1960-61.

1.5 Since each minor scheme diverts but a small quantity of water, since the number of such schemes is relatively large and since most of the particulars specified for the major and medium projects were not available for the minor schemes, the Commission decided to request the State Governments to furnish only a few important facts regarding each minor scheme. These have been presented in Table II to the extent these could be made available by the State Governments.

1.6 As regards small tanks and diversions, their number runs into thousands and even the particulars called for the minor schemes were not available for individual small tanks and diversions. It was, therefore, decided to collect some particulars regarding these small tanks and diversions, not by individual works, but collectively for all the small tanks and diversions in each district. Even this information was not wholly available. The information obtained is shown in Table III.

1.7 An abstract of all information available regarding minor schemes and small tanks and diversions is shown in Table IV. This Table gives the number of total schemes of this kind, district-wise, the areas irrigated and the average annual diversions. The Commission have attempted to fill in the gaps in the data; the figures assumed are shown in brackets and suitable notes have been added to indicate the basis on which the assumptions have been made.

No records are available of the quantum of river supplies diverted by minor schemes or by small tanks and diversions. In order to get some idea of this quantum, the information contained in Table VI was collected from each State Government and was utilised in working out the average annual diversions shown in Table IV.

1.8 The total number of schemes in each State, the total area irrigated and the total river supply diverted are shown in a Statement in the beginning of the Annexure.

Section 2

General form for recording particulars of major and medium projects which were in operation as on 31st March, 1951 with explanatory notes

सत्यमेव जयते

Name of scheme or system

Index Number

indicating serial number,
category of project, sub-basin
and State or States

1. Name of State

State or States benefitted by the scheme; if the scheme was in a different State prior to re-organisation of States, also the name of that State.

2. Scope of the scheme or system

Irrigation, hydro-electric or multi-purpose ; if multi-purpose, all purposes are stated ;
Whether based on flow or flow-cum-storage ;
For irrigation schemes, acreage of C.C.A. or Ayacut is given ;
For hydro-electric schemes, installed power in kW. is stated.

3. Source of supply

Name of channel with name of place where diversion works are located, tributary and river.

Illustration : Sina at Sholapur/Bhima/Krishna

Upstream uses if any, existing and proposed

4. Description of the resevoir or tank

(as during 1941-42 to 1950-51)

Live storage; dead storage; carry-over; annual reservoir losses; filling period; depletion period; catchment area ; area submerged; full reservoir level ; minimum pond level or dead storage level.

If no canal takes off from the reservoir or tank

type, length and height of dam ; length and capacity of spillway ; and number and capacity of outlets.

(as during 1951-52 to 1960-61)

Changes, if any, in the information furnished above

(as now proposed)

Changes proposed, if any, other than those covered by a new project

5. Description of the headworks

(as during 1941-42 to 1950-51)

If a canal takes off above the dam :

type, length and height of dam; length and capacity of spillway ; number and capacity of outlets including particulars of head regulator of the canal

If the headworks consist of a weir, anicut or barrage :

length of weir, anicut or barrage with discharging capacity; particulars of undersluices and of head regulator of canal; minimum pond level and catchment area upstream of headworks.

(as during 1951-52 to 1960-61)

Changes, if any, in the information furnished above

(as now proposed)

Changes proposed, if any, other than those covered by a new project

6. Description of canal(s)

(as during 1941-42 to 1950-51)

Name of canal (contour or ridge); whether taking off on right or left; length of main canal (and of branches) ; one seasonal, two seasonal or perennial ; lined or unlined ; authorised capacity at head.

(as during 1951-52 to 1960-61)

Changes, if any, in the information furnished above

(as now proposed)

Changes proposed, if any, other than those covered by a new project

7. Year from which the scheme is in operation

Major changes, if any, in capacity of canal or tank, after scheme was originally brought into operation, are also stated.

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

(i) In general separate tables are prepared for each major canal;

(ii) Ayacut figures are not given for schemes in Madhya Pradesh and Maharashtra.

Item	*Names of districts*				*Total*
	........................*thousand acres*........................				
	(*as during 1941-42 to 1950-51*)				
G. C. A.					
C. C. A.					
Ayacut					
	(*as during 1951-52 to 1960-61*)				
Changes, if any, in the information furnished above					
	(*as now proposed*)				
Changes proposed, if any, other than those covered by a new project					

9. Area irrigated annually and intensity of irrigation

(i) Where the area irrigated annually is more than 10,000 acres, yearly crop-wise figures for the period from 1941-42 to 1960-61 are given in *Annexure* I;

(ii) intensity of irrigation is worked out as percentage of the area irrigated in each crop season, (*kharif*, *rabi*, *abi*, *tabi*, hot-weather, *etc.*) on total C.C.A. in case of Madhya Pradesh and Maharashtra and on Ayacut in case of Andhra Pradesh, Mysore and Orissa.

(iii) all figures are correct to first place of decimal.

Area irrigated annually			*Intensity of irrigation*			
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*		*Total*
......*thousand acres*......			...............*percentage*.....................			
(*as during 1941-42 to 1950-51*)						
(*as during 1951-52 to 1960-61*)						
(*as now proposed*)						

10. Normal rainfall and river supply diverted

(i) If there is more than one canal, separate tables are prepared for each major canal;

(ii) figures in column 2 are as read from Isohyetal maps;

(iii) figures in column 3 and 4 are based on the sum-total of the rainfall figures for the month for all the stations in the commanded area divided by the number of stations;

(iv) figures in each of the columns 5,6,8 and 9 pertain to individual years during which the total annual diversion was maximum or minimum as the case may be;

(v) figures in columns 12, 13 and 14 represent

$$\frac{\text{average cusces diverted during the month}}{\text{authorised capacity of the canal}}$$

(vi) figures in columns 2 to 4 are correct to first place of decimal and those in columns 5-14 to two places of decimal.

Note—*The words 'No change' in column 11 indicate that the withdrawals proposed to be made would be the same as here to fore under similar river supply conditions. In other cases, where figures of withdrawals are given in this column, these indicate a long term average—the annual withdrawals would vary above and below this figure depending on annual fluctuations in the river supply.*

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As now proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As now proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*......			........*thousand million cubic feet (T. M. C.)*......									
June													
July													
—													
—													
April													
May													
Total													

11. **(a) Depth of sub-soil water-table below ground level**

(b) Nature and extent of annual fluctuation in the water-table

(c) Has there been any change in the sub-soil water-table since the introduction of irrigation?

Information is given only where data based on regular observations are available

12. **(a) Characteristics of soil(s) in the commanded area**

Results of scientific soil survey, if carried out, are given, otherwise, general classification specifying soil texture with depth of soil crust

(b) Has there been any change in the soil characteristics since the introduction of irrigation?

Information is given only when scientific studies have been made

13. **(a) Crop pattern**

(i) Where area irrigated annually is more than 10,000 acres crop-wise figures for each year are given in *Annexure I*;

(ii) paddy, wheat, sugarcane and cotton are specified individually; any other crop which covers more than 5 percent of the total cropped area is also specified, all other crops are grouped under "others";

(iii) crop percentages are worked out on the "Total cropped area" as given in the last column and are correct to the first place of decimal

Perennial		*Two seasonal*				
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Total cropped area (T. acres)*

(average for 1941-42 to 1950-51)

(average for 1951-52 to 1960-61)

(as now proposed)

(b) Are there any rules for regulating crop pattern?

14. Delta at canal head

Overall delta represents

$$\frac{\text{the area irrigated annually vide item 9}}{\text{total annual river supply diverted vide item 10}}$$

Delta (feet)			
Perennial	*Kharif*	*Rabi*	*Overall*

(average for 1941-42 to 1950-51)
(average for 1951-52 to 1960-61)
(as now proposed)

15. (a) Number of tanks in operation in the irrigated area and the area irrigated thereform

It is specified whether area irrigated by tanks is included in or excluded from the C. C. A. or Ayacut of the project

(b) Number of wells in operation in the irrigated area and the area irrigated thereform

It is specified whether the area irrigated by wells is included in or excluded from the C. C. A. or Ayacut of the project

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

Whether river supply data available, the period of the year in which flow supplies are adequate to meet irrigation requirements; number of days during which flow supplies are in excess of irrigation requirements and quantum of excess ; period during which irrigation requirements are met wholly or partly from storage and quantum so obtained.

POWER ASPECTS

17. River supplies diverted and operation head

Month	*As during 1941-42 to 1950-51*		*As during 1951-52 to 1960-61*		*As proposed*	
	Range of operation head (feet)	*Mean supply passing through turbines (cusecs)*	*Range of operation head (feet)*	*Mean supply passing through turbines (cusecs)*	*Range of operation head (feet)*	*Mean supply passing through turbines (cusecs)*
June						
July						
—						
—						
April						
May						
Total		T. M. C.		T. M. C.		T. M. C.

18. Disposal of tail-race waters

Where information is not available monthwise, the disposal of **tail-race water is indicated** in general terms

Month	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
June			
July			
—			
—			
April			
May			

19. Quantum of river supplies available in relation to withdrawals, as of March, 1951

Whether river supply data available; the period of the year in which flow supplies are adequate to meet power requirements ; number of days during which flow supplies are in excess of power requirements; period of the year in which power requirements are met wholly or partly from storage and quantum so utilised.

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Aspects such as navigation, water supply for towns, supplies given for industrial uses are specified; average utilisation for a number of years is given and the years specified.

21. Financial return of the scheme

Worked out as percentage of net return (gross return less working expenses) on the total capital outlay

22. Main features and purpose of the scheme

23. Special features of the scheme

This item is included only if there are very special features not covered by items 1-22 above

सत्यमेव जयते

KHANAPUR CHANNELS

1 A-G.5-A.1

1. **Name of State** Andhra Pradesh (formerly in Hyderabad—*Jagir Paigab*)

2. **Scope of the scheme or system**
   Irrigation scheme ; flow ; Ayacut 10,800 acres (taken over by P. W. D. in 1950)

3. **Source of supply**
   Godavari at Madampelly, supplemented by supply from 11 tanks
   Considerable irrigation uses upstream, both existing and contemplated

4. Not applicable

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

	Khanapur flank	*Badamkurthi flank*
Masonry anicut :		
Length	1,285 feet	78 feet
Crest level	R. L. 789.5	R. L. 793.5
Under sluices:	2 vents, 2.5 feet x 6 feet each	1 vent, 5 feet x 6.3 feet
Head regulator :	4 vents, 5 feet x 7 feet each	2 vents, 5 feet x 6.5 feet each
Catchment area	36,925 square miles	

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. **Description of the canals**

(as during 1941-42 to 1950-51)

Khanapur Channel (contour) ; left flank ; 18.5 miles long ; two seasonal ; unlined ; authorised capacity not known

Badamkurthy Channel (ridge) ; right flank ; 3 miles long ; two seasonal ; unlined ; authorised capacity not known

Section 3

particulars
of
major and medium projects

(as during 1951-52 to 1960-61)

No change

(as now proposed)

Authorised capacity fixed as 175 cusecs for Khanapur Channel and 12 cusecs for the Badamkurthy Channel

7. The year from which the scheme is in operation about 1900

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Adilabad

	Khanapur channel	*Badamkurthy channel*	*Total*
	........................*thousand acres*........................		
	(as during 1941-42 to 1950-51)		
G. C. A.	17.0	1.0	**18.0**
C. C. A.	10.0	0.8	**10.8**
Ayacut	10.0	0.8	**10.8**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation *(See Annexure 1)*

	Area irrigated annually			*Intensity of irrigation on Ayacut*		
	Maximum	*Minimum*	*Average*	*Abi*	*Tabi*	*Total*
	......*thousand acres*........			.. ....*percentage*..............		
	(as during 1941-42 to 1950-51)					
Khanapur channel	10.3	5.8	7.9	44.3	34.3	**78.6**
Badamkurthy channel	1.3	4.3	0.8	54.8	40.7	**95.5**

	Area irrigated annually			*Intensity of irrigation on Ayacut*		
	Maximum	*Minimum*	*Average*	*Abi*	*Tabi*	*Total*
	......*thousand acres*......			........*percentage*........		
	(as during 1951-52 to 1960-61)					
Khanapur channel	11.6	7.3	9.5	55.4	39.5	94.9
Badamkurthy channel	1.3	Nil	0.7	66.3	25.9	92.2
	(as now proposed)					
Khanapur channel	..	..	16.0	100.0	60.0	160.0
Badamkurthy channel	..	..	1.4	100.0	75.0	175.0
Total			**17.4**			

10. Normal rainfall and river supply diverted (both canals)

Month	*Rainfall*			*River supply diverted*			*Capacity factor*
	Normal	*Maximum*	*Minimum*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*	*As proposed*
1	2	3	4	5	6	7	8
	........*inches*........			....*thousand million cubic feet (T. M. C.)*....			
June	6.6	15.5	1.9	Not available	Not available	0.15	0.31
July	12.4	22.5	4.5			0.50	1.00
August	7.2	17.0	2.0			0.43	0.86
September	5.3	8.2	2.4			0.43	0.89
October	2.7	5.8	0.8			0.50	1.00
November	0.2	2.0	Nil			0.15	0.31
December	Nil	Nil	,,			0.03	0.06
January	,,	,,	,,			0.46	0.92
February	,,	0.6	,,			0.40	0.89
March	0.4	1.5	,,			0.50	1.00
April	0.1	0.7	,,			0.46	0.95
May	0.3	1.3	,,			0.12	0.24
Total	**35.2**			**(2.4)***	**(2.8)***	**4.13**	

assumed figures** ; **data of actual withdrawals not available

11. Not available

12. (a) **Characteristics of soils in the commanded area** Red loam and black cotton soils

(b) Not available

13. Crop pattern (*See Annexure 1*)

	Abi		*Tabi*		*Total cropped area (T. acres)*
	Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
	Paddy		*Paddy*		
		(*average for 1941-42 to 1950-51*)			
Khanapur channel	56.4	4.4	43.6	3.4	7.8
Badamkurthy channel	57.3	0.5	42.7	0.3	0.8
Total	56.5	4.9	43.5	3.7	8.6
		(*average for 1951-52 to 1960-61*)			
Khanapur channel	58.4	5.5	41.6	4.0	9.5
Badamkurthy channel	72.0	0.5	28.0	0.2	0.7
Total	59.3	6.0	40.7	4.2	10.2
		(*as now proposed*)			
Khanapur channel	62.5	10.0	37.5	6.0	16.4
Badamkurthy channel	57.1	0.8	42.9	0.6	1.4

(b) Are there any rules for regutating crop pattern ?

No, but the cutivator is required to pay water rate for 100 percent area under *abi* and such *tabi* as he may grow

14. Delta at canal head

Delta (*feet*)		
Abi	*Tabi*	*Overall*
(*average for 1941-42 to 1950-51*)		
Not available		
(*average for 1951-52 to 1960-61*)		
Not available		
(*as now proposed*)		
4.6	6.9	5.4

15. (a) Number of tanks in operation in the irrigated area and the area irrigated thereform

11 tanks; irrigating about 1,302 acres annually, area included in the Ayacut

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available, but ample water available for the canal

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Not available

22. Main features and purpose of the scheme Irrigation of paddy

KHANAPUR CHANNELS

Annexure 1

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Area irrigated by crops (acres)

Year	*Khanapur channels*			*Badamkurthy channels*			*Grand Total*
	Abi	*Tabi*	*Total*	*Abi*	*Tabi*	*Total*	
1	2	3	4	5	6	7	8
1941-42	2,992	2,776	5,768	Nil	Nil	Nil	**5,768**
42-43	2,992	2,776	5,768	,,	,,	,,	**5,768**
43-44	2,992	2,776	5,768	,,	,,	,,	**5,768**
44-45	2,992	2,776	5,768	,,	,,	,,	**5,768**
45-46	5,639	3,583	9,222	733	532	1,265	**10,487**
46-47	4,817	3,564	8,381	717	550	1,267	**9,648**
47-48	4,755	3,557	8,312	724	553	1,277	**9,589**
48-49	5,662	3,680	9,342	725	559	1,284	**10,626**
49-50	5,686	4,479	10,165	727	559	1,286	**11,451**
50-51	5,781	4,280	10,061	754	511	1,265	**11,326**
1951-52	5,818	4,371	10,189	751	542	1,293	**11,482**
52-53	5,812	4,274	10,086	754	446	1,200	**11,326**
53-54	5,827	4,298	10,125	758	541	1,299	**11,424**
54-55	5,860	4,378	10,238	768	539	1,307	**11,545**
55-56	6,445	N.A.	N.A.	759	Nil	759	N.A.
56-57	6,445	N.A.	N.A.	759	Nil	759	N.A.
57-58	6,445	5,139	11,584	759	,,	759	**12,343**
58-59	4,243	3,054	7,297	Nil	,,	Nil	**7,297**
59-60	4,243	3,054	7,297	,,	,,	,,	**7,297**
60-61	4,250	3,055	7,305	,,	,,	,,	**7,305**
Average for the 10 years from 1941-42 to 1950-51	**4,431**	**3,425**	**7,856**	**438**	**326**	**764**	**8,620**
Average for the 10 years from 1951-52 to 1960-61	**5,539**	**3,953***	**9,492**	**531**	**207**	**738**	**10,230**

**Average for 8 years*

GODAVARI DELTA SYSTEM 2A-G. 10-A.O.

1. **Name of State** Andhra Pradesh (formerly in Madras)

2. **Scope of the scheme or system**

   Irrigation scheme; flow; Ayacut 933,000 acres increasing to 1,010,000 acres

3. **Source of supply**

   Godavari at Dowlaishwaram
   Considerable uses upstream, both existing and proposed

4. Not applicable

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

	Dowlaishwaram	*Ralli*	*Maddur*	*Vizzeswaram*
Anicuts length :	4,839 feet 2 inches	2,858 feet 11 inches	1,549 feet 8.5 inches	2,600 feet 11 inches
number of shutters :	445	271	141	246
size of shutters :	10 feet x 3 feet	10 feet x 3 feet	10 feet x 3 feet	10 feet x 3 feet
length of shutters portion :	4,470 feet	2,722 feet	1,415 feet 6 inches	2,469 feet 6 inches
Under sluices :	10 Nos., 20 feet x 20 feet each, total capacity 26,800 cusecs	15 Nos., 5 feet 6 inches x 6 feet 3 inches each, total capacity 7,400 cusecs	Nil	9 Nos., 5 feet 10 inches x 10 feet 9 inches each, 6 Nos. 5 feet 10 inches x 10 feet 1 inch each, total capacity 12.200 cusecs
Head sluices	15 vents, of various sizes	15 vents, 6 feet, x 8.5 feet each		6 vents 17.5 feet x 10 feet each, supplemental 2 vents, 6 feet x 8 feet 2 inches each

	Dowlaishwaram	*Ralli*	*Maddur*	*Vizzeswaram*
Head locks :	Two lock chambers, 150 feet x 20 feet each, 2 gate vents, 2 feet 6 inches x 2 feet 6 inches each	Two of 105 feet x 15 feet each and two of 3 feet x 3 feet each	Nil	2 of 150 feet x 20 feet each and 2 of 2 feet 6 inches x 2 feet 6 inches each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

(1) Godavari Eastern Delta Main Canal (contour) ; left bank ; about 4 miles long (branches about 156 miles) ; perennial ; unlined ; authorised capacity **not available**, maximum supply run **4,875 cusecs**

(2) Godavari Central Delta Main Canal (contour) ; centre; about 8 miles long (branches about 117 miles); perennial; unlined; authorised capacity **not available**, maximum supply run on any one day **3,180 cusecs**

(3) Godavari Western Delta Main Canal (contour); right bank; about 5 miles long (branches about 208 miles); perennial; unlined; authorised capacity **not known**, maximum supply run on any one day **7,500 cusecs***

**Capacity of head sluices given under item 5 is only 5,700 cusecs.*

According to Madras P. W. D. Administration Reports, the maximum discharge of the canals as designed was 14,510 cusecs in 1941-42 and 14,570 cusecs from 1950-51

(as during 1951-52 to 1960-61)

No change, except that the maximum supply run in the Godavari Central Delta Main Canal was **3,480 cusecs**

(as now proposed)

It is proposed to fix the authorised capacity of all the canals taken together at **15,700 cusecs**

7. The year from which the scheme is in operation

1877 ; additions and alterations have been carried out from time to time

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise*

Item	*East Godavari District*			*West Godavari District*	
	Godavari Eastern Delta Main Canal	*Godavari Central Delta Main Canal*	*Total*	*Godavari Western Delta Main Canal*	*Grand Total*
	thousand acres				
	(at the end of 1950-51)				
G.C.A.	430.4	303.4	733.8	668.8	**1,402.6**
C.C.A.	352.7	241.9	594.6	565.0	**1,159.6**
Ayacut	N.A.	N.A.	N.A.	N.A.	**933.0**
	(at the end of 1960-61)				
G.C.A.	442.9	303.4	746.3	668.8	**1,415.1**
C.C.A.	363.0	241.9	604.9	565.0	**1,169.9**
Ayacut	N.A.	N.A.	N.A.	N.A.	**1,010.0**
	(as now proposed)				
	No change				

**According to Madras P. W. D. Administration Reports, the corresponding data were as follows:—*

Period (Years)	*G. C. A.*	*C. C. A.*	*Area irrigated by complete project*	*Area irrigated at present*
	acres			
1941-42 to 1944-45	1,318,135	1,141.148	857.500	827,500
1945-46 to 1949-50	1,402.580	896.454	890.500	884,328 to 916,850
1950-51 to 1952-53	1,202,580	896.454	890,500	1.129,626 to 1,176.522

9. Area irrigated annually and intensity of irrigation (*See Annexure I*)

*Area irrigated annually**			*Intensity of irrigation on Ayacut*		
Maximum	*Minimum*	*Average*	*1st crop*	*2nd crop*	*Total*
.... *thousand acres*			.... *percentage*		
(*as during 1941-42 to 1950-51*) (*percentage on 933,000 acres*)					
1,340.4	1,067.5	1,221.5	95.5	35.4	**130.9**
(*as during 1951-52 to 1959-60*) (*percentage on 1,010,000 acres*)					
1,438.3	1,116.8	1,276.3	91.8	34.6	**126.4**
(*as now proposed*)					
No change**					

**Exclusive of area under green manure which is estimated as 400,000 acres*

***It was stated by the State Government that they would aim at irrigating on this system a maximum of 1,380,000 acres.*

10. Normal rainfall and river supply diverted

(i) Godavari Western Main Canal Vizzeswaram head sluice

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			As during 1951-52 to 1960-61			As proposed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As proposed
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........Inches........			......................(T.M.C.)......................									
June	5.0	8.9	1.6	11.65	10.95	8.11	11.57	3.42	6.54	13.00	0.42	0.34	0.67
July	9.1	12.7	4.2	16.47	17.59	15.80	7.55	8.55	12.84	16.00	0.79	0.64	0.80
August	7.1	10.8	3.4	15.16	18.01	15.65	13.67	10.69	12.60	15.00	0.78	0.62	0.75
September	6.9	14.0	3.7	16.58	15.18	13.90	14.42	11.05	13.28	14.00	0.72	0.68	0.72
October	8.7	15.3	2.6	16.80	12.65	13.87	9.75	8.59	10.98	14.00	0.69	0.55	0.70
November	2.2	6.9	Nil	10.74	11.25	11.42	9.87	13.17	10.86	13.00	0.59	0.56	0.67
December	0.7	5.6	,,	11.04	11.06	11.33	10.54	9.59	9.95	17.50	0.56	0.50	0.87
January	0.1	0.4	,,	11.49	7.66	12.12	12.64	10.82	10.08	10.50	0.60	0.50	0.52
February	0.2	0.7	,,	10.17	4.15	9.79	10.92	7.10	8.22	8.50	0.54	0.45	0.47
March	0.3	3.3	,,	11.40	6.62	8.13	11.04	5.31	6.69	6.50	0.40	0.33	0.32
April	0.6	2.6	,,	7.99	4.14	8.35	10.69	4.20	6.11	4.50	0.43	0.31	0.23
May	1.4	4.9	,,	3.03	1.02	1.62	1.82	3.05	2.17	Nil	0.08	0.11	—
Total	**42.3**			**142.52**	**120.28**	**130.09**	**124.48**	**95.54**	**110.32**	**132.50**			

10. Normal rainfall and river supply diverted

(ii) Godavari Central Main Canal Ralli head sluice

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*........			......................*T.M.C*....................									
June	4.4	9.4	0.9	6.69	4.37	3.61	5.82	4.94	3.90	5.00	0.44	0.43	0.55
July	9.1	13.9	4.0	6.08	5.32	6.95	6.90	5.84	7.00	8.00	0.82	0.75	0.86
August	6.9	10.9	5.2	7.07	6.89	6.99	5.89	5.38	7.00	8.00	0.82	0.75	0.86
September	7.5	9.8	2.8	6.76	6.38	6.30	8.06	6.92	7.02	6.00	0.76	0.78	0.67
October	10.1	16.8	5.1	6.24	5.01	6.12	6.25	5.96	5.83	4.00	0.72	0.63	0.43
November	2.7	10.4	Nil	4.78	3.59	4.68	5.76	4.48	4.78	4.00	0.57	0.53	0.44
December	0.8	5.6	,,	4.12	2.99	4.05	5.89	4.46	4.64	9.00	0.48	0.50	0.97
January	0.1	0.5	,,	5.50	3.11	4.71	5.87	4.39	5.03	6.00	0.55	0.54	0.64
February	0.4	1.9	,,	4.86	1.75	3.70	4.50	2.39	3.63	5.00	0.48	0.43	0.59
March	0.2	1.5	,,	4.87	2.14	3.36	4.32	2.09	2.94	3.00	0.39	0.32	0.32
April	0.6	1.8	,,	2.12	1.21	1.72	2.00	0.72	1.22	1.20	0.21	0.14	0.13
May	1.7	6.6	0.2	2.81	1.30	2.00	2.80	1.23	2.31	Nil	0.23	0.25	—
Total	**44.5**			**61.90**	**44.06**	**54.19**	**64.06**	**48.80**	**55.30**	**59.20**			

(iii) Godavari Eastern Main Canal Dowlaiswaram Sluice

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			As during 1951-52 to 1960-61			As pro-posed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches........			........thousand million cubic feet (T.M.C.)........									
June	4.2	6.3	1.0	6.72	4.71	4.14	7.18	4.52	3.73	8.50	0.33	0.30	0.67
July	9.2	16.0	4.3	10.74	9.70	9.61	7.87	7.26	9.20	10.00	0.74	0.70	0.77
August	6.7	10.5	3.9	11.29	10.38	9.63	9.30	7.53	9.19	10.00	0.74	0.70	0.77
September	6.7	13.3	3.7	10.47	8.94	8.71	10.81	7.87	9.18	9.50	0.69	0.73	0.75
October	9.6	17.1	2.3	10.02	7.63	8.08	6.21	8.33	7.44	8.50	0.62	0.57	0.65
November	2.9	13.3	Nil	6.41	3.62	4.82	5.94	4.94	5.76	8.50	0.38	0.46	0.67
December	0.5	3.4	,,	5.09	2.79	4.62	5.53	4.28	5.08	12.50	0.35	0.39	0.96
January	Nil	3.0	,,	5.35	2.38	5.04	6.35	3.63	4.91	7.50	0.39	0.38	0.57
February	0.2	1.4	,,	7.64	1.74	5.07	7.32	2.73	4.17	5.50	0.43	0.35	0.47
March	0.2	1.1	,,	6.75	2.89	4.64	8.74	2.39	3.85	5.00	0.36	0.29	0.38
April	0.6	2.6	,,	3.27	1.79	3.38	5.15	1.43	2.76	4.40	0.27	0.22	0.35
May	2.0	11.2	0.1	0.89	0.40	0.98	2.03	0.56	0.73	Nil	0.08	0.06	—
Total	**42.8**			**84.64**	**56.97**	**68.72**	**82.43**	**55.47**	**66.00**	**89.90**			
Total of all three canals				**289.06**	**221.31**	**253.00**	**270.97**	**199.81**	**231.62**	**281.60**			

11. Not available

12. (a) **Characteristics of soils in the commanded area**

Mainly alluvial soil with sandy areas along the coasts. Alluvial soils from 80 to 90 percent of the area

(b) Not available

13. (a) Crop pattern (*See Annexure 1*)

Perennial		*Kharif*		*Rabi*		*Total cropped area (T. acres)*
Percentage	*Total area (T. acres)*	*Percentange of principal crops* *Paddy*	*Total area (T. acres)*	*Percentage of principal crops* *Paddy*	*Total area (T. acres)*	
			(average for 1941-42 to 1950-51)			
		73.0*	891.4	27.0	330.1	1,221.5
			(average for 1951-52 to 1960-61)			
		72.6*	926.8	27.4	349.5	1,276.3
			(as now proposed, as a maximum)			
3.6	50.0	69.6	960.0	26.8	370.0	1,380.0

**includes some perennial crop, the exact area not recorded.*

(b) **Are there any rules for regulating crop pattern?**

Perennial and *abi* areas are specified

14. Delta at canal head

1st crop—June to December
2nd crop—January to May

Delta (feet)

Perennial	*1st crop*	*2nd crop*	*Overall*
	(average for 1941-42 to 1950-51)		
—	4.6	5·2	4·8
	(average for 1951-52 to 1960-61)		
—	4·1	4·3	4.2
	(as now proposed, as a maximum)		
7·34	4·45	4·45	4·7

Green manure has a duty of 273 acres and a Delta of 0·46

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

There is escapage below the anicut from July to December in most years. During the remaining part of the year, canal withdrawals are generally limited to river supplies.

Canal withdrawals as proposed in column 11 of item 10 above are available from flow waters from July to November. From December to April, for 5 months, the proposed withdrawals are not available from flow waters in about two years out of three; in June the proposed withdrawals would be available only in one year out of two. The adequacy or otherwise of river supplies for the proposed withdrawals would also be governed by the requirements of an integrated basin-wide plan.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Navigation, irrigation of green manure and fodder (which area is not assessed) and washing salinity from irrigated areas in the coast and along tidal drains. For navigation no additional water supplies are required. The quantity of water used for washing salinity and irrigating green manure and fodder is accounted for against II crop.

21. Financial return of the scheme

1944-45	19.19 percent
1949-50	10.51 ,,
1951-52	7.29 ,,
1952-53	1.81 ,,

Returns for the later years not available

22. Main features and purpose of the scheme

Intensive cultivation of paddy on an area of about one million acres

23. Special features of the scheme

Of the area irrigated under this scheme approximately 0.79 million acres lie outside the Godavari drainage basin.

GODAVARI DELTA SYSTEM

Annexure I

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*				Total
	Godavari Delta		*Polavaram Island*		
	1st crop	*2nd crop*	*1st crop*	*2nd crop*	
1	2	3	4	5	6
1941-42	825,716	220,565	13,969	7,236	**1,067,486**
42-43	819,940	290,761	14,760	16,206	**1,141,667**
43-44	851,265	276,849	15,265	7,216	**1,150,595**
44-45	839,746	302,507	15,201	6,467	**1,163,921**
45-46	902,205	326,890	15,368	7,909	**1,252,372**
46-47	888,511	352,151	14,789	5,687	**1,261,118**
47-48	877,150	343,162	14,963	7,480	**1,242,755**
48-49	888,519	349,196	15,145	4,363	**1,257,225**
49-50	932,986	378,982	17,843	7,234	**1,337,045**
50-51	932,524	381,590	17,821	8,432	**1,340,367**
1951-52	897,036	347,629	14,494	8,286	**1,267,445**
52-53	809,100	286,997	15,010	5,775	**1,116,842**
53-54	859,761	314,542	15,039	8,797	**1,198,139**
54-55	896,105	293,426	17,688	6,098	**1,213,317**
55-56	907,581	304,263	15,370	7,025	**1,234,239**
56-57	979,173	384,754	15,247	6,328	**1,385,502**
57-58	912,975	366,618	15,342	7,001	**1,301,936**
58-59	939,468	368,827	15,618	6,693	**1,330,606**
59-60	1,002,125	414,439	14,239	7,480	**1,438,283**
60-61	*N.A.*	*N.A.*	*N.A.*	*N.A.*	*N.A.*
Average for the 10 years from 1941-42 to 1950-51	**875,856**	**322,263**	**15,513**	**7,823**	**1,221,455**
Average for the 10 years from 1951-52 to 1960-61	**911,480**	**342,384**	**15,339**	**7,054**	**1,276,257**

The irrigated areas noted above for the years 1941-42 to 1952-53 tally with the figures given in the Appendix II of the Administration reports of Madras P. W. D. for the years 1941-42 to 1952-53 under the head "area charged as irrigated and the area irrigated free of charge". The figures noted for the years 1953-54 to 1959-60 are stated to be for Godavari Delta, Polavaram Island Project and Coringa Island Project as supplied by the Board of Revenue, Andhra Pradesh.

FATEH NEHAR

3A-G.4-A-3

1. **Name of State** Andhra Prades h(formerly in Hyderabad)

2. **Scope rof the schemeor system**

Irigation scheme; based on flow ; Ayacut 6,800 acres

.3**Source of supply**

Manjra near Ghanpur/**Godavari**
Utilisation upstream:
existing : a number of tanks
proposed: several projects

4. Not applicable

5. **Description of the headworks**

(*as during 1941-42 to 1950-51*)

Masonry weir, 2,377 feet long, called Ghanpur anicut.
Head regulator : 4 vents, each 5 feet x 5 feet
Under sluices : 4 vents, 5.0 feet x 5.0 feet each and 3 vents. 3.5 feet x 5.0 feet each

(*as during 1951-52 to 1960-61*)

No change

(*as now proposed*)

No change

6. **Description of the canals**

(*as during 1941-42 to 1950-51*)

Fateh Nehar (contour); left bank; 8.0 miles long; *abi* only; unlined; capacity **134 cusecs**

(*as during 1951-52 to 1960-61*)

No change

(*as now proposed*)

No change

7. The year from which the scheme is in operation 1926

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Medak

(as during 1941-42 to 1950-51)

G. C. A.	12,100 acres
C. C. A.	7,900 acres
Ayacut	6,800 acres

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation on Ayacut*
Maximum	*Minimum*	*Average*	*Kharif*
.........*thousand acres*.........			......*percentage*......
(as during 1941-42 to 1950-51)			
6.6	3.7	5.1	75.0
(as during 1951-52 to 1960-61)			
6.8	5.3	5.8	85.3
(as now proposed)			
..	..	6.8	100.0

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As pro-posed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As pro-posed*
	Normal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Average*	*Maxi-mum*	*Mini-mum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........*inches*........			........*thousand million cubic feet (T. M. C.)*..........									
June	5.1	9.5	1.5	Not available			0.09	Nil	0.08	0.07	Not available	0.23	0.20
July	10.1	21.3	5.8				0.32	,,	0.23	0.23		0.64	0.64
August	9.7	20.7	3.5				0.33	0.24	0.28	0.27		0.78	0.75
September	6.9	15.3	2.6				0.37	0.25	0.29	0.27		0.84	0.78
October	2.1	6.1	0.4				0.32	0.26	0.29	0.31		0.81	0.86
November	0.5	5.1	Nil				0.16	0.15	0.15	0.21		0.43	0.61
December	0.2	0.3	,,				0.22	0.12	0.10	Nil		0.28	—
January	Nil	Nil	,,				Nil	Nil	0.04	,,		0.11	—
February	0.2	0.4	,,				,,	0.01	0.03	,,		0.09	—
March	0.2	1.6	,,				,,	Nil	0.02	,,		0.06	—
April	0.6	2.7	0.4				,,	,,	Nil	,,		—	—
May	1.3	4.5	Nil				,,	,,	,,	,,		—	—
Total	**36.9**					(1.3) *assumed*	**1.81**	**1.03**	**1.51**	**1.36**			

11. Not available

12. (a) Characteristics of soils in the commanded area Mostly black cotton soil

(b) Not available

13. Crop pattern

Abi	
Percentage of principal crops	*Total cropped area (T. acres)*
Paddy	
(average for 1941-42 to 1950-51)	
100.0	5.1
(average for 1951-52 to 1960-61)	
100.0	5.8
(as now proposed)	
100.0	6.8

(b) Are there any rules for regulating crop pattern ?

No, but the cultivator is required to pay water rate for 100 percent area under *abi* and such *tabi* as he may grow

14. Delta at canal head

Delta (feet)
Abi
(average for 1941-42 to 1950-51)
Not available
(average for 1951-52 to 1960-61)
6.0
(as now proposed)
4.6

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

15 tanks ; irrigating about 1,100 acres annually, merged in the Ayacut

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available ; supplies available are stated to be adequate for irrigation requirements.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme 1.36 percent

22. Main features and purpose of the scheme

Paddy cultivation of 6,000 acres

MAHBOOB NEHAR

4A-G.4-A.4

1. **Name of State** Andhra Pradesh (formerly in Hyderabad)
2. **Scope of the scheme or system**
   Irrigation scheme ; based on flow ; Ayacut 7,500 acres
3. **Source of supply**
   Manjra near Ghanpur/**Godavari**
   Utilisation upstream :
   existing : number of tanks
   proposed: several projects
4. Not applicable
5. **Description of the headworks**
   Same as for Fateh Nehar (**3A-G. 4-A. 3**)
6. **Description of the canal**

(as during 1941-42 to 1950-51)

Mahboob Nehar (contour); right bank; 26.5 miles long; two seasonal; unlined : capacity **234 cusecs ;** tails into Pocharam lake-See **6A-G.4-A.6**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. **The year from which the scheme is in operation** 1904

IRRIGATION ASPECTS

8. **Gross commanded area, culturable commanded area and Ayacut, district-wise**

District Medak

(as during 1941-42 to 1950-51)

G. C. A.	17,500 **acres**
C. C. A	13,900 ,,
Ayacut	7,500 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation on Ayacut*		
Maximum	*Minimum*	*Average*	*Abi*	*Tabi*	*Total*
..........*thousand acres*............			...............*percentage*............		
		(*as during 1941-42 to 1950-51*)			
6·5	5·4	6·2	44·0	38·6	**82.6**
		(*as during 1951-52 to 1960-61*)			
10·9	5·4	7·8	61·3	42·7	**104.0**
		(*as now proposed*)			
—	—	11·5	100.0	53·3	**153.3**

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			As during 1951-52 to 1960-61			As pro-posed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches........			............thousand million cubic feet (T. M. C.)......									
June	5.1	9.5	1.5	0.29	0.01	0.16	0.16	0.14	0.17	0.08	0.26	0.28	0.13
July	10.1	21.3	5.8	0.63	0.19	0.52	0.44	0.33	0.40	0.26	0.83	0.64	0.41
August	9.7	20.7	3.5	0.63	0.49	0.54	0.63	0.31	0.42	0.30	0.86	0.67	0.48
September	6.9	15.3	2.6	0.61	0.61	0.61	0.61	0.34	0.46	0.30	1.00	0.76	0.49
October	2.1	6.1	0.4	0.63	0.43	0.61	0.57	0.38	0.47	0.34	0.97	0.75	0.54
November	0.5	5.1	Nil	0.26	0.34	0.36	0.26	0.44	0.27	0.22	0.59	0.44	0.36
December	0.2	0.2	,,	0.08	0.19	0.16	0.15	0.03	0.07	0.02	0.26	0.11	0.03
January	Nil	Nil	,,	0.62	0.18	0.46	0.70	0.17	0.39	0.28	0.73	0.62	0.45
February	0.2	0.4	,,	0.57	0.07	0.38	0.55	0.22	0.33	0.24	0.71	0.58	0.42
March	0.2	1.6	,,	0.63	0.05	0.39	0.63	0.14	0.32	0.36	0.67	0.51	0.57
April	0.6	2.7	,,	0.54	0.04	0.29	0.66	0.05	0.24	0.28	0.48	0.40	0.46
May	1.3	4.5	0.4	0.05	Nil	0.03	0.15	0.02	0.07	0.02	0.05	0.11	0.03
Total	**36.9**			**5.54**	**2.60**	**4.51**	**5.51**	**2.57**	**3.61**	**2.70***			

*excludes supplies to be delivered to Poacharam Project (6A-G.4-A.6)

11. Not available

12. (a) Characteristics of soil in the commanded area

Mostly Black cotton type

(b) Not available

13. (a) Crop pattern

Abi		*Tabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Paddy		*Paddy*		
(average for 1941-42 to 1950-51)				
53.7	3.3	46.3	2.9	6.2
(average for 1951-52 to 1960-61)				
59.3	4.6	40.7	3.2	7.8
(as now proposed)				
65.2	7.5	34.8	4.0	11.5

(b) Are there any rules for regulating crop pattern?

No; but the cultivator is required to pay water rates for 100 percent area under *abi* and such *tabi* as he may grow.

14. Delta at canal head

Delta (feet)		
Abi	*Tabi*	*Overall*
(average for 1941-42 to 1950-51)		
5.7	5.2	5.5
(average for 1951-52 to 1960-61)		
3.6	4.5	3.9
(as now proposed)		
4.6	6.9	5.4

Figures above take into account areas irrigated in Pocharam Project by water diverted through Mahboob Nehar.

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

9 tanks are fed by the canal, irrigated area merged with the Ayacut

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available

17. to 19. Not applicable

GENERAL

20. **Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects ; financial returns**

Nil

21. Financial return of the scheme	5.18 percent
22. Main features and purpose of the scheme	Paddy cultivation of 8,000 acres

NIZAMSAGAR PROJECT

5A-G.4-A.5

1. **Name of State** Andhra Pradesh (formerly in Hyderabad)

2. **Scope of the scheme or system**

Multipurpose scheme ; flow-cum-storage ; Ayacut 239,000 acres; for power aspects see **1B-G.4-A.1**

3. **Source of supply**

Manjra at Atchampet/**Godavari**
Irrigation uses upstream, both existing and contemplated

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	25.60 T. M. C. upto R. L. 1,364.0
Dead storage	4.11 ,,
Carry-over	1.55 ,,
Annual reservoir losses	5.82 ,,
Filling period	July and August
Depletion period	September to June
Catchment area	8,376 square miles
Area submerged	32,000 acres
Full reservoir level	R. L. 1,401
Minimum draw-down level	R. L. 1,364

(as during 1951-52 to 1960-61)
No change

(as now proposed)
No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : masonry, 7,500 feet long, 158 feet high
Spillway: left flank, 16 automatic gates, 40 feet x 15.5 feet each ;
right flank, 12 automatic gates, 40 feet x 15.5 feet each ;
total capacity 272,000 cusecs

Outlets : scouring sluices—9 vents, 8 feet x 15 **feet each, capacity 16,200 cusecs**
head sluices— 11 vents, 8 feet x 10.5 feet each (6 vents are connected to turbines for generating hydro-electric power)

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canal

(as during 1941-42 to 1950-51)

Main Canal (contour); right bank; 96 miles long ; perennial; unlined; authorised capacity **3,400 cusecs** ; actual mean withdrawal during any ten-day period has not exceeded **2,800 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1931

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Nizamabad

(as during 1941-42 to 1950-51)

G. C. A.	536,500 acres
C. C. A.	312,600 ,,
Ayacut	239,000 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation* (*See Annexure I*)

Area irrigated annually			*Intensity of irrigation on Ayacut*			
Maximum	*Minimum*	*Average*	*Perennial*	*Abi*	*Tabi*	*Total*
........*thousand acres*......			..................*percentage*....................			
			(*as during 1941-42 to 1950-51*)			
147.3	111.5	128.0	6.9	31.5	15.1	**53.5**
			(*as during 1951-52 to 1959-60*)			
188.0	135.6	165.6	12.5	43.9	12.9	**69.3**
			(*as now proposed*)			
..	..	275.0	16.3	83.7	15.1	**115.1**

**The canal was originally designed to irrigate 255,000 acres of abi, 35,000 acres of tabi and 20,000 acres of sugarcane.*

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	....*inches*......			........*thousand million cubic feet (T. M. C.)*........									
June	5.4	11.2	1.1	2.20	1.92	2.10	2.33	2.83	2.46	3.02	0.24	0.28	0.34
July	11.5	17.3	2.7	3.52	2.22	3.27	5.34	5.58	4.36	7.18	0.36	0.48	0.79
August	9.9	22.0	4.2	4.71	2.52	4.15	5.61	6.51	5.31	8.98	0.46	0.58	0.99
September	8.3	13.6	3.5	4.96	3.16	3.99	5.46	5.40	5.51	8.74	0.45	0.63	0.99
October	2.3	7.1	0.1	5.53	4.38	4.99	5.51	6.52	6.50	7.98	0.55	0.71	0.88
November	1.0	4.5	Nil	3.86	2.29	3.85	4.50	3.96	4.67	4.15	0.44	0.53	0.47
December	0.1	0.4	,,	1.59	1.83	1.74	1.54	1.82	1.58	0.94	0.19	0.17	0.10
January	0.4	2.7	,,	3.36	3.28	3.11	2.90	1.38	2.82	3.47	0.34	0.31	0.38
February	0.4	1.4	,,	3.23	1.94	2.98	3.53	0.92	2.53	3.04	0.36	0.31	0.37
March	0.6	3.7	,,	5.42	3.39	3.99	3.86	1.26	3.02	4.53	0.44	0.33	0.50
April	0.8	2.0	,,	4.29	2.85	3.78	4.61	1.50	3.17	3.81	0.43	0.36	0.43
May	1.3	11.8	,,	1.98	1.52	2.03	2.44	1.92	2.15	1.89	0.22	0.24	0.21
Total	**42.0**			**44.65**	**31.30**	**39.98**	**47.63**	**39.60**	**44.08**	**57.73**			

11. Not available

12. **(a) Characteristics of soils in the commanded area** Light and heavy black cotton soils

(b) Not available

13. **Crop pattern** (*See Annexure I*)

Perennial			*Abi*		*Tabi*		
Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Total cropped area (T. acres)*
Sugar-cane	*Garden*		*Paddy*		*Paddy*		
			(average for 1941-42 to 1950-51)				
11.9	0.9	16.5	58.9	75.3	28.3	36.2	128.0
			(average for 1951-52 to 1959-60)				
17.1	0.9	29.8	63.3	104.9	18.7	31.0	165.7
			(as now proposed)				
12.8	1.4	39.0	72.7	200.0	13.1	36.0	275.0

14. **Delta at canal head**

Delta (feet)			
Perennial	*Abi*	*Tabi*	*Overall*
(average for 1941-42 to 1950-51)			
..	5.4	7.2	7.2
(average for 1951-52 to 1960-61)			
..	5.2	5.4	6.1
(as now proposed)			
8.3	4.0	6.3	4.8

Exclusive of water supply received from 620 tanks refered to in 15 (a)

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

620 tanks, having an aggregate Ayacut of 60,500 acres; merged with the Ayacut

(b) Not available

16. Quantam of river supplies available in relation to withdrawals as of March, 1951

The average river supply is 151 T. M. C. well in excess of irrigation requirements. In two years out of 26, however, the river supply was less than the average irrigation use during 1951-52 to 1960-61. As regards the diversion now proposed, *viz.* 57.73 T. M. C., this quantity is not available in 5 years out of 26.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme

Anticipated return 10 percent on the capital outlay. Actual average for the last 4 years from 1956-57 to 1959-60 is 3.61 percent.

22. Main features and purpose of the scheme

Cultivation of paddy (136,000 acres) and sugarcane (30,000 acres)

NIZAM SAGAR PROJECT

Annexure I

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*					
	Perennial			*Abi*	*Tabi*	*Grand Total*
	Sugarcane	*Garden*	*Total*	*Paddy*	*Paddy*	
1941-42	10,543	1,020	11,563	66,052	33,856	**111,471**
42-43	11,932	1,276	13,208	73,528	38,963	**125,699**
43-44	13,685	1,091	14,776	81,057	37,056	**132,889**
44-45	14,568	636	15,204	78,693	39,693	**133,590**
45-46	15,119	657	15,776	73,836	33,512	**123,124**
46-47	15,690	836	16,526	73,996	33,659	**124,181**
47-48	16,565	1,026	17,591	68,596	33,438	**119,625**
48-49	17,087	1,143	18,230	75,437	35,903	**129,570**
49-50	16,199	1,212	17,411	78,612	36,374	**132,397**
50-51	21,419	2,708	24,127	83,662	39,503	**147,292**
1951-52	24,930	1,554	26,484	87,326	35,121	**148,931**
52-53	26,372	1,232	27,604	86,899	21,049	**135,552**
53-54	21,503	1,510	23,013	97,625	34,082	**154,720**
54-55	28,036	1,567	29,603	103,176	29,557	**162,336**
55-56	34,102	1,505	35,607	99,708	29,243	**164,558**
56-57	33,279	1,538	34,817	104,644	32,579	**172,040**
57-58	30,740	1,571	32,311	115,016	35,596	**182,923**
58-59	27,054	1,625	28,679	123,625	29,436	**181,740**
59-60	28,424	1,412	29,836	125,733	32,475	**188,044**
Average for the 10 years from 1941-42 to 1950-51	**15,281**	**1,160**	**16,441**	**75,347**	**36,196**	**127,984**
Average for the 9 years from 1951-52 to 1959-60	**28,271**	**1,502**	**29,773**	**104,861**	**31,015**	**165,649**

POCHARAM PROJECT

6A-G.4-A.6

1. **Name of State** Andhra Pradesh (formerly in Hyderabad)

2. **Scope of the scheme or system**

   Irrigation ; flow-cum-storage ; Ayacut 10,000 acres

3. **Source of supply**

   Alair stream, a sub-tributory of Manjra/**Godavari**
   Supplemented by escapage from Mahboob Nehar (**4A-G. 4-A. 4**) **to the extent of** 2·**59** T.M.C.
   Utilisation upstream : minor tanks only

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	1·82 T. M. C.
Dead storage	Nil
Carry-over	,,
Annual reservoir losses	0.72 T. M. C.
Filling period	July to August
Depletion period	September to May
Catchment area	240 square miles
Area submerged	6·5 square miles
Full reservoir level	R. L. 1,464
Minimum pond level	R. L. 1,443

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : masonry, 2,100 feet long, about 30 feet high

Spillway : scouring sluices, 15 vents of 4 feet x 6 feet each, total capacity 8,944 cusecs
Outlets : 4 vents of 3 feet x 3 feet each, total capacity 227 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canal

(as during 1941-42 to 1950-51)

Pocharam Canal (contour); 36 miles long; two seasonal; unlined; authorised capacity **227 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1922

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Nizamabad

(as during 1941-42 to 1950-51)

G. C. A.	29,500 acres
C. C. A.	24,000 ,,
Ayacut	10,000 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation (*See Annexure I*)

Area irrigated annually			*Intensity of irrigation on Ayacut*		
Maximum	*Minimum*	*Average*	*Abi*	*Tabi*	*Total*
........*thousand acres*			..............*percentage*..................		
		(*as during 1941-42 to 1950-51*)			
13·0	12·4	12·7	80·3	46·6	126.9
		(*as during 1951-52 to 1960-61*)			
14·9	9·9	13·5	93·5	41·5	135.0
		(*as now proposed*)			
		15·0	100·0	50·0	150.0

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			As during 1951-52 to 1960-61			As pro-posed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches........			...........thousand million cubic feet (T. M. C.)......									
June	5.3	13.5	1.0	Nil	0.07	0.04	Nil	Nil	0.02	0.10	0.07	0.03	0.17
July	10.3	22.8	3.7	0.24	0.16	0.22	0.33	0.10	0.22	0.27	0.36	0.36	0.44
August	8.9	20.0	1.7	0.50	0.17	0.33	0.52	0.31	0.30	0.41	0.54	0.49	0.67
September	7.0	18.0	2.1	0.47	0.22	0.36	0.45	0.44	0.40	0.48	0·61	0.68	0.82
October	2.1	5.7	Nil	0.39	0.40	0.35	0.47	0.31	0.37	0.39	0.58	0.61	0.64
November	0.7	4.6	,,	Nil	0.07	0.04	0.18	0.14	0.12	0.05	0.07	0.20	0.09
December	0.1	2.1	,,	0.16	0.03	0.15	Nil	Nil	0.01	0.03	0.25	0.02	0.05
January	Nil	0.6	,,	0.32	0.24	0.31	0.17	0.05	0.18	0.37	0.51	0.30	0.61
February	0.3	4.0	,,	0.30	0.15	0.27	0.18	0.05	0.21	0.30	0.49	0.38	0.55
March	0.3	2.4	,,	0.36	0.21	0.32	0.23	0.06	0.25	0.41	0.53	0.41	0.67
April	0.6	0.9	,,	0.32	0.19	0.25	0.23	0.05	0.23	0.34	0.43	0.39	0.58
May	0.5	2.9	,,	0.05	0.04	0.05	0.02	0.01	0.04	0.03	0.08	0.07	0.05
Total	**36.1**			**3.11**	**1.95**	**2.69**	**2.78**	**1.52**	**2.35**	**3.18**			

11. Not available

12. (a) **Characteristics of soils in the commanded area**

Black soils and sandy loam .

(b) Not available

13. (a) **Crop pattern** (*See Annexure I*)

Crop period *Abi* .. June to November 165 days
Tabi .. December to May 130 days

Abi		*Tabi*		*Total cropped area* (*T. acres*)
Percentage of principal crops	*Total area* (*T. acres*)	*Percentage of principal crops*	*Total area* (*T. acres*)	
Paddy		*Paddy*		
(*average for 1941-42 to 1950-51*)				
63.3	8.0	36.7	4.7	12.7
(*average for 1951-52 to 1960-61*)				
69.3	9.4	30.7	4.1	13.5
(*as now proposed*)				
66.7	10.0	33.3	5.0	15.0

(b) **Are there any rules for regulating crop pattern ?**

No ; but the cultivator is required to pay water rates for 100 percent of the area under *abi* and such *tabi* as he may grow

14. Delta at canal head

Abi .. June to November
Tabi .. December to May

Delta (*feet*)

Abi	*Tabi*	*Overall*
(*average for 1941-42 to 1950-51*)		
3.8	6.7	4.9
(*average for 1951-52 to 1960-61*)		
3.5	5.1	4.0
(*as now proposed*)		
3.9	6.8	4.9

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

13 tanks with Ayacut 1,959 acres, included in the Pocharam Project Ayacut

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply is in excess of canal requirements

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme 4 percent

22. Main features and purpose of the scheme

Paddy cultivation of about 14,000 acres

Annexure 1

POCHARAM PROJECT

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*		
	Abi	*Tabi*	*Grand Total*
1941-42	7,900	4,800	**12,700**
42-43	7,800	5,100	**12,900**
43-44	7,900	5,000	**12,900**
44-45	8,000	4,800	**12,800**
45-46	8,000	4,400	**12,400**
46-47	8,000	4,900	**12,900**
47-48	8,000	4,400	**12,400**
48-49	8,100	4,300	**12,400**
49-50	8,400	4,600	**13,000**
50-51	8,200	4,300	**12,500**
1951-52	8,300	3,500	**11,800**
52-53	7,200	4,300	**11,500**
53-54	8,900	1,000	**9,900**
54-55	9,100	4,800	**13,900**
55-56	9,900	4,500	**14,400**
56-57	10,000	4,500	**14,500**
57-58	9,900	5,000	**14,900**
58-59	10,000	4,500	**14,500**
59-60	10,000	4,900	**14,900**
60-61	10,200	4,500	**14,700**
Average for the 10 years from 1941-42 to 1950-51	**8,030**	**4,660**	**12,690**
Average for the 10 years from 1951-52 to 1960-61	**9,350**	**4,150**	**13,500**

MANER PROJECT

1. Name of State Andhra Pradesh (formerly in Hyderabad)

2. Scope of the scheme or system

Irrigation scheme ; flow-cum-storage ; Ayacut 14,250 acres

3. Source of supply

Maner near Siddipet/**Godavari**

Utilisation upstream : existing minor uses, Gambhiraopet anicut and channel project

4. Description of the reservoir or tank

(as during 1941-42 to 1950-51)

Live storage	2.46 T. M. C.
Dead storage	0.56 ,,
Carry-over	0.40 ,,
Annual reservoir losses	0.65 ,,
Filling period	July to October
Depletion period	November to June
Catchment area	836 square miles
Area submerged	5.5 square miles
Full reservoir level	R. L. 1,483
Minimum pond level	R. L. 1,452

(as during 1951-52 to 1960-61)

No change

(as now propsed)

No change

5. Description of the headworks

(as during 1941-42 to 1950-51)

Dam : composite, 6,783 feet long, 100 feet high

Spillway : ogee type, 2,717 feet long and free over-fall weir, 1,200 feet long, capacit
not known

Outlets : two vents, each 2 feet x 3 feet and three vents, each 4 feet x 6 feet

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

High Level Left Bank Canal (contour) ; 2.25 miles long; two seasonal ; unlined ; capacity **30 cusecs**

Low Level Right Bank Canal (contour) ; 23.7 miles long (branches 5 miles) ; two seasonal upto 12 miles and one seasonal beyond; unlined; capacity **240 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1949

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

District Karimnagar

	High Level Canal	*Low Level Canal*	*Total*
	...............*thousand acres*..................		
	(as during 1941-42 to 1950-51)		
G. C. A.	0.9	37.4	**38.3**
C. C. A.	0.7	23.8	**24.5**
Ayacut both canals			**14.3**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation on both canals *(See Annexure 1)*

Area irrigated annually			*Intensity of irrigation on Ayacut*		
Maximum	*Minimum*	*Average*	*Abi*	*Tabi*	*Total*
........*thousand acres*..........			........*percentage*............		
(as during 1949-50 and 1950-51)					
3.9	0.9	2.4	4.4	12.3	**16.7**
(as during 1951-52 to 1960-61)					
14.3	**4.2**	11.4	63.8	16.0	**79.8**
(as now proposed)					
		17.3	100.0	21.0	**121.0**

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted*							*Capacity factor*	
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*			
	......*inches*........			..............*T. M. C.*....................								
June	5.1	9.6	1.9	Not available			0.21	Nil	0.14	0.15	0.20	0.21
July	10.7	19.3	5.0				0.49	,,	0.39	0.49	0.54	0.68
August	9.0	14.8	2.1				0.52	0.27	0.45	0.57	0.62	0.79
September	6.7	11.4	2.7				0.56	0.33	0.45	0.57	0.64	0.81
October	3.3	5.6	0.5				0.55	0.36	0.51	0.66	0.71	0.91
November	0.7	4.5	Nil				0.25	0.28	0.28	0.43	0.40	0.61
December	0.2	1.0	,,				Nil	0.04	0.04	0.01	0.06	0.01
January	Nil	Nil	,,				0.14	Nil	0.17	0.22	0.24	0.30
February	0.1	0.8	,,				0.19	0.02	0.17	0.18	0.26	0.28
March	0.4	3.0	,,				0.20	0.08	0.17	0.28	0.24	0.39
April	0.5	1.2	,,				0.19	Nil	0.13	0.22	0.19	0.31
May	0.9	2.7	,,				0.05	,,	0.01	0.01	0.01	0.01
Total	**37.6**					**(0.6)***	**3.35**	**1.38**	**2.91**	**3.79**		

****assumed**, *the scheme came into operation in 1949*

11. Not available

12. (a) **Characteristics of soils in the commanded area**

Loamy and sandy soil, approximately from 2 to 3 feet deep

(b) Not available

13. (a) **Crop pattern** (*See Annexure I*)

Abi		*Tabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
		(*average for 1949-50 and 1950-51*)		
26.1	0.6	73.9	1.8	2.4
		(*average for 1951-52 to 1960-61*)		
80.0	9.1	20.0	2.3	11.4
		(*as now proposed*)		
82.7	14.3	17.3	3.0	17.3

(b) **Are there any rules for regulating crop pattern ?** No

14. Delta at canal head

Abi—June to November
Tabi—December to May

Delta (feet)		
Abi	*Tabi*	*Overall*
	(*average for 1949-50 and 1950-51*)	
	Not available	
	(*average for 1951-52 to 1960-61*)	
5.6	6.9	5.9
	(*as now proposed*)	
4.6	7.0	5.0

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

17 tanks ; with Ayacut of 3,289 acres which is included in the Ayacut of the project

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

Nil

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

River supply data not available

17. to 19. Not applicable

GENERAL

20. **Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns**

Nil

21. **Financial return of the scheme** 2.65 percent (estimated)

Actual	1954-55	minus	2.86	percent
	1956-57	minus	2.31	,,
	1957-58	minus	3.05	,,
	1958-59	minus	3.01	,,

22. **Main features and purpose of the scheme**

Paddy cultivation of 13,000 to 17,000 acres

MANER PROJECT

Annexure I

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*		
	Abi	*Tabi*	*Grand Total*
	The project came into operation from 1949-50		
1949-50	272	576	848
50-51	976	2,949	3,925
1951-52	4,167	4,138	8,305
52-53	4,209	—	4,209
53-54	9,797	2,968	12,765
54-55	10,230	2,074	12,304
55-56	10,336	2,052	12,388
56-57	11,860	2,455	14,315
57-58	9,933	864	10,797
58-59	10,031	3,281	13,312
59-60	10,083	2,994	13,077
60-61	10,558	2,033	12,591
Average for 2 years 1949-50 and 1950-51	624	1,763	2,387
Average for the 10 years from 1951-52 to 1960-61	9.120	2,286	11,406

LAKNAWARAM LAKE

8A-G.10-A.8

1. **Name of State** Andhra Pradesh (formerly in Hyderabad)

2. **Scope of the scheme or system**

Irrigation scheme; storage; Ayacut 7,100 acres

3. **Source of supply**

Laknawaram at Salvai/**Godavari**
Utilisation upstream : four tanks having total Ayacut of 461 acres

4. **Description of the reservoir or tank**

(*as during 1941-42 to 1950-51*)

Live storage	2.14 T. M. C.
Dead storage	Not available
Carry-over	0.20 T. M. C.
Annual reservoir losses	0.67 ,,
Filling period	June to September
Depletion period	October to May
Catchment area	104 square miles
Full reservoir level	R. L. 319
Minimum pond level	R. L. 285

(*as during 1951-52 to 1960-61*)

No change

(*as now proposed*)

No change

5. **Description of the headworks**

(*as during 1941-42 to 1950-51*)

Dam : the tank bund is in two parts, 1,200 feet and 800 feet long respectively, across two valleys

Spillway : 319 feet long, with natural bye-wash 85 feet long, capacity not known

Outlets : three low level vents, 3 feet x 3 feet each ; 3 central level vents, 2.5 feet x 2 feet each and 3 high level vents, 2.5 feet x 2 feet each

The water escaped from the outlets flows through natural valley for about ½ mile where a pick-up earthen dam (Saddimagu) is constructed. All the irrigation channels take off from this pick up dam

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Narsimala Canal (contour) ; left bank ; 8.9 miles long; two seasonal; unlined ; authorised capacity **53 cusecs**

Rangapoor Channel (contour); right bank ; 7.5 miles long (branches 5.1 miles); two seasonal ; unlined; capacity **85 cusecs**

Srirampath Canal (contour); right bank; 2.9 miles long; two seasonal; unlined; authorised capacity **18 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation

Constructed in 1213, restored in 1909

IRRIGATION ASPECTS

8. Gross commanded area, culturable commanded area and Ayacut, district-wise

(as during 1941-42 to 1950-51)

District Warangal

G. C .A.	Not available
C. C. A.	12,000 acres
Ayacut	7,100 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation on Ayacut*		
Maximum	*Minimum*	*Average*	*Abi*	*Tabi*	*Total*
...............*thousand acres*...............			...............*percentage*...............		
(as during 1941-42 to 1950-51)					
Not available		(5.6)			(78.8)
(as during 1951-52 to 1960-61)					
7.8	1.9	5.6	54.9	23.9	78.8
(as now proposed)					
-	—	8.9	100.0	25.3	125.3

10. Normal rainfall and river supply diverted

For three canals taken together

Month	*Rainfall*			*River supply diverted*					*Capacity factor*		
				As during 1941-42 to 1950-51	*As during 1954-55 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1954-55 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*		*Maxi mum*	*Minimum*	*Average*				
1	2	3	4		5	6	7	8	9	10	11
	........*inches*........			......*thousand million cubic feet (T. M. C.)*......							
June	10.3	11.8	8.9	Not available	0.27	0.05	0.11	0.07	Not available	0.27	0.17
July	17.3	25.0	9.6		0.52	0.03	0.24	0.36		0.57	0.86
August	13.9	22.0	5.8		0.40	0.04	0.29	0.28		0.69	0.67
September	8.9	9.6	8.2		0.57	0.06	0.25	0.27		0.62	0.67
October	1.5	1.8	1.2		0.58	0.12	0.39	0.36		0.93	0.86
November	0.2	0.5	Nil		0.14	0.12	0.18	0.07		0.45	0.17
December	0.1	0.3	,,		Nil	Nil	Nil	Nil		Nil	Nil
January	0.4	0.9	,,		,,	,,	0.03	0.13		0.07	0.31
February	Nil	Nil	,,		0.04	0.13	0.10	0.11		0.27	0.29
March	0.6	1.3	,,		0.06	0.12	0.12	0.15		0.29	0.36
April	1.3	2.6	,,		0.11	0.10	0.11	0.13		0.27	0.32
May	1.9	1.7	0.4		Nil	Nil	0.02	0.01		0.05	0.02
Total	**56.4**			(1.8) assumed	**2.69**	**0.77**	**1.84**	**1.94**			

11. Not available

12. (a) **Characteristics of soils in the commanded area**

Light black cotton and sandy loams 2 to 3 feet deep

(b) Not available

13. (a) **Crop pattern**

For all the three canals taken together

Abi		*Tabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
(*average for 1941-42 to 1950-51*)				
Not available				
(*average for 1951-52 to 1960-61*)				
69.7	3.9	30.3	1.7	5.6
(*as now proposed*)				
79.8	7.1	20.2	1.8	8.9

(b) **Are there any rules for regulating crop pattern ?** No

14. Delta at canal head

Combined for all the canals

Delta (feet)		
Abi	*Tabi*	*Overall*
(*average for 1941-42 to 1950-51*)		
Not available		
(*average for 1951-52 to 1960-61*)		
8.6	5.1	7.5
(*as now proposed*)		
4.6	6.8	5.0

15. **(a)** **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

Nil

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

Nil

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

River supply data not available

17. to 19. Not applicable

GENERAL

20. **Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects ; financial returns**

Nil

21. **Financial return of the scheme** 21.4 percent (average of 5 years)

22. **Main features and purpose of the scheme**

Paddy cultivation over 6,000-7,000 acres

WAINGANGA CANAL

9A-G.9-Ma.1

1. **Name of State** Madhya Pradesh

2. **Scope of the scheme or system**

Irrigation scheme ; based on flow ; C.C.A 106,576 acres

3. **Source of supply**

Wainganga river never Dhuti Village/Pranhita/**Godavari**
Utilisation upstream, both existing and proposed

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage in pond 0.28 T.M.C.

Catchment area 2,609 square miles including area intercepted by 5 medium and 900 small tanks

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Weir :	1,652 feet long, 38 feet high above river bed, capacity 500,000 cusecs
Sluices :	2 numbers, 10 feet x 10 feet each
Head regulator :	3 vents, 12 feet x 7½ feet each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. **Description of the canal**

(as during 1941-42 to 1950-51)

Wainganga Canal (first 18 miles contour, then ridge) ; right bank ; 27 miles long (branches 52 miles) ; two seasonal ; unlined ; authorised capacity **685 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

As part of Upper Wainganga Scheme (**18 C.3-G.9-Ma.2**), it is proposed to increase the authorised capacity to **1,000 cusecs.** Pending sanction of Upper Wainganga Scheme, it is proposed to increase the capacity of the canal to **800 cusecs.**

7. The year from which the scheme is in operation 1923

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Balaghat

(as during 1941-42 to 1950-51)

G. C. A.	125,100 acres
C. C. A.	106,600 acres

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation (*See Annexure 1*)

Area irrigated annually			*Intensity of irrigation*		
Maximum	*Minimum*	*Average*	*Kharif*	*Rabi*	*Total*
....*thousand acres*......			........*percentage*..........		
(as during 1941-42 to 1950-51)					
56.1	47.2	52.1	48.9	...	**48.9**
(as during 1951-52 to 1960-61)					
66.3	55.7	62.3	58.1	0.3	**58.4**

(as now proposed)

No change

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				*As during 1941-42 to 1950-51**			*As during 1951-52 to 1960-61***			*As pro-posed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As pro-posed*
	Normal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Average*	*Maxi-mum*	*Mini-mum*	*Average*				
	........*inches*........			........*thousand million cubic feet (T. M. C.)*..........									
June	6.0	20.2	1.0	Nil	Nil	0.01	Nil	0.05	0.02		0.01	0.01	
July	20.0	31.7	7.2	1.34	0.38	0.55	0.65	0.87	0.64		0.31	0.35	
August	15.2	33.2	7.9	1.85	0.82	1.49	1.19	1.38	1.01		0.81	0.55	
September	8.5	18.9	1.8	1.85	1.53	1.81	1.66	1.42	1.67	No change	1.02	0.94	
October	2.4	11.4	Nil	1.59	1.73	1.78	1.79	Nil	1.28		0.97	0.70	No change
November	0.5	5.6	,,	0.02	0.08	0.29	0.60	,,	0.25		0.16	0.14	
December	0.1	2.6	,,	Nil	Nil	Nil	Nil	,,	Nil		—	—	
January	0.7	6.2	,,	,,	,,	,,	0.22	,,	0.05		—	0.03	
February	0.9	4.1	,,	,,	,,	,,	0.05	,,	0.01		—	0.01	
March	0.6	2.4	,,	,,	,,	,,	Nil	,,	Nil		—	—	
April	0.5	5.1	,,	,,	,,	,,	,,	,,	,,		—	—	
May	0.4	3.0	..	,,	,,	,,	0.10	0.10	0.03		—	0.02	
Total	**55.8**			**6.69**	**4.54**	**5.93**	**6.26**	**3.73**	**4.96**				

**Omitting year 1947-48.*

***Omitting the years 1951-52, 1953-54 to 1956-57.*

11. Not available

12. (a) Characteristics of soils in the commanded area

Soils may be broadly classified as *Kanhar* (black cotton), *Moorum* (red soil with low percentage of clay), *Sindi*, and *Barra* (Red and yellow soil).

(b) Not available

13. (a) Crop pattern (*See Annexure I*)

Kharif		*Rabi*		*Total cropped area* (*T. acres*)
Percentage of principal crops	*Total area* (*T. acres*)	*Percentage of principal crops*	*Total area* (*T. acres*)	
Paddy		*Wheat*		
(*as during 1941-42 to 1950-51*)				
100.0	52.1	—	—	52.1
(*as during 1951-52 to 1960-61*)				
99.5	62.0	0.5	0.3	62.3
(*as now proposed*)				
No change				

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Overall Delta (*feet*)
(*as during 1941-42 to 1950 51*)
2.6
(*as during 1950-51 to 1960-61*)
1.8
(*as now proposed*)
No change

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Minor irrigation tanks in area commanded by the Wainganga canal, irrigate an area of about 11,000 acres, which is included in the C.C.A. but not included in figures given under Serial No. 10. Some times the supply in the tanks is supplemented by inflow from the canal.

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

1,888 wells irrigating 896 acres, included in the C.C.A. but not in figures given against serial number 10.

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

Present requirements fully met from flow. The Dhuti weir normally overflows throughout the months of July, August and September.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme

During 1950-51 to 1954-55, 0.19 percent (including Sarahati Tank). Probable for the period 1956-57 to 1960-61 has been roughly worked out at 2.05 percent.

22. Main features and purpose of the scheme

Irrigation of about 60,000 acres of paddy.

Annexure I

WAINGANGA CANAL

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*		
	Kharif	*Rabi*	*Grand Total*
	Paddy	*Wheat*	
1941-42	47,200	..	47,200
42-43	47,763	..	47,763
43-44	48,070	..	48,070
44-45	50,783	..	50,783
45-46	51,284	..	51,284
46-47	55,807	..	55,807
47-48	56,051	..	56,051
48-49	55,008	..	55,008
49-50	54,195	..	54,195
50-51	55,048	..	55,048
1951-52	55,719	..	55,719
52-53	55,943	66	56,009
53-54	60,138	347	60,485
54-55	62,058	500	62,558
55-56	62,226	891	63,117
56-57	63,756	..	63,756
57-58	64,576	..	64,576
58-59	64,470	..	64,470
59-60	65,224	212	65,436
60-61	65,443	919	66,362
Average for the 10 years from 1941-42 to 1950-51	52,121	..	52,121
Average for the 10 years from 1951-52 to 1960-61	61,956	294	62,250

ROOMAL TANK

10A-G. 9-Ma. 2

1. **Name of State** Madhya Pradesh
2. **Scope of the scheme or system**
   Tank irrigation scheme; C. C. A. 8,030 acres
3. **Source of supply**
   Lodhia Nalla, near Roomal Village/Wainganga/Pranhita/**Godavari**
   Utilisation upstream :
   existing : nil
   proposed : nil
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	0.23 T.M.C.
Dead storage	0.03 ,,
Carry-over	0.02 ,,
Annual reservoir losses	0.04 ,,
Filling period	June to September
Depletion period	July to February
Catchment area	14.62 square miles
Area submerged	325 acres
Full reservoir level	188 (arbitrary datum)
Minimum pond level	172 (arbitrary datum)

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthen, main 1,706 feet long, subsidiary 1,497 feet long; 57 feet high
Spillway : 200 feet long, capacity 10,456 cusecs
Outlets : barrel type, two numbers, 30 inches diameter each, total capacity 69 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canal

(as during 1941-42 to 1950-51)

Roomal Canal (contour for 1st 1.5 mile and ridge beyond) ; right bank; 6.4 miles long (branches 13 miles); one seasonal; unlined; capacity 69 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1912

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Seoni

(as during 1941-42 to 1950-51)

G.C.A.	14,600 acres
C.C.A.	8,000 „

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*		
Maximum	*Minimum*	*Average*	*Kharif*	*Rabi*	*Total*
......*thousand acres*............			............*percentage*.............		
		(as during 1491-42 to 1950-51)			
3.4	1.2	2.9	36.2	--	**36.2**
		(as during 1951-52 to 1960-61)			
4.0	3.7	3.9	48.8	—	**48.8**
		(as now proposed)			
—	—	5.0	50.0	12.5	**62.5**

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51*			As during 1954-55 to 1960-61			As pro-posed	As during 1941-42 to 1950-51	As during 1954-55 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	..........inches........			.........thousand million cubic feet (T. M. C.)........									
June	8.1	20.9	0.2	Nil	Nil	Nil	Nil	Nil	Nil	Nil	—	—	—
July	20.0	33.4	6.4	0.02	,,	0.01	0.01	,,	0.01	0.03	0.05	0.05	0.16
August	16.3	28.6	8.0	0.04	,,	0.01	0.09	,,	0.05	0.04	0.05	0.27	0.22
September	5.3	24.0	1.1	0.07	,,	0.05	0.16	0.12	0.10	0.10	0.28	0.56	0.56
October	2.1	10.5	Nil	0.14	,,	0.08	0.13	0.11	0.13	0.12	0.43	0.70	0.65
November	0.5	3.6	,,	0.02	,,	0.01	Nil	Nil	0.01	0.02	0.06	0.06	0.11
December	0.3	2.9	,,	Nil	,,	Nil	,,	,,	Nil	0.02	—	—	0.11
January	0.8	6.0	,,	,,	,,	,,	,,	,,	,,	0.01	—	—	0.05
February	0.7	3.6	,,	,,	,,	,,	,,	,,	,,	0.01	—	—	0.06
March	1.0	4.9	,,	,,	,,	,,	,,	,,	,,	Nil	—	—	—
April	0.6	4.9	,,	,,	,,	,,	,,	,,	,,	,,	—	—	—
May	0.4	7.1	,,	,,	,,	,,	,,	,,	,,	,,	—	—	—
Total	**56.1**			**0.29**	Nil	**0.16**	**0.39**	**0.23**	**0.30**	**0.35**			

* *Withdrawal data not made available*

11. Not available

12. (a) **Characteristics of soils in the commanded area**

No scientific soil survey has been carried out. The area has black cotton type of soil and also the type locally known as *Moruum* (red soil with low percentage of clay) ; effective soil depth 4 to 6 feet.

(b) Not available

13. (a) **Crop pattern**

Kharif		*Rabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Paddy		*Wheat*		
(average for 1941-42 to 1950-51)				
100.0	**2.9**	—	—	**2.9**
(average for 1951-52 to 1960-61)				
100.0	**3.9**	—	—	**3.9**
(as now proposed)				
80.0	**4.0**	20.0	**1.0**	**5.0**

(b) **Are there any rules for regulating crop pattern ?** No

14. Delta at canal head

Delta (feet)		
Kharif	*Rabi*	*Overall*
(average for 1941-42 to 1950-51)		
1.3	—	1.3
(average for 1951-52 to 1960-61)		
1·8	—	1.8
(as now proposed)		
1.7	1.1	**1.6**

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

3 tanks irrigating 106 acres ; area excluded from the C. C. A.

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

The supplies available from normal flow during June to August are adequate to meet the requirements of irrigation.

Normally one fourth of the requirements of *Kharif* irrigation in September, October and November are met from river flow and three fourth from storage. The Roomal tank spillway overflows in the months of August and September except in year of low supply.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme

Average for the period 1950-51 to 1954-55 : 1.54 percent

Data for later period not available

22. Main features and purpose of the scheme

Irrigation of about 4,000 acres of paddy

CHICHBUND TANK

11A-G. 9-Ma.3

1. **Name of State** Madhya Pradesh

2. **Scope of the scheme or system**

   Tank irigation scheme ; C.C.A. 8,464 acres

3. **Source of supply**

   Bharkunda nalla, near Chichbund/Wainganga/Pranhita/**Godavari**

   Utilisation upstream :

   existing : negligible

   proposed : minor irrigation schemes in the catchment envisage irrigation of about 500 acres

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	0.26 T. M. C.
Dead storage	0.03 ,,
Carry-over	0.05 ,,
Annual reservoir losses	0.05 ,,
Filling period	June to September
Depletion period	July to February
Carchment area	11.0 square miles
Area submerged	227 acres
Full reservoir level	R. L. 1,813
Minimum pond level	R. L. 1,790

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthen, 4,200 feet long, 57 feet high

Spillway : 164 feet long, capacity 3,550 cusecs

Outlets : barrel type, capacity 68 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canal

(as during 1941-42 to 1950-51)

Chichbund Canal (initially contour and then ridge) ; left bank ; **11.3 miles long** (branche 5.5 miles) ; one seasonal ; unlined ; authorised capacity **68 cusecs**

(as during 1951-52 to 1960-61)

Canal made two seasonal

(as now proposed)

No change

7. The year from which the scheme is in operation 1949-50

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Seoni

(as during 1941-42 to 1950-51)

G. C. A	8,900 acres
C. C. A	8,500 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*		
Maximum	*Minimum*	*Average*	*Kharif*	*Rabi*	*Total*
........*thousand acres*..........			............*percentage*........		
(as during 1941-42 to 1950-51)					
2.5	—	2.5	29.4	—	**29.4**
(as during 1951-52 to 1960-61)					
5.3	4.4	4.9	57.6	nominal	**57.6**
(as now proposed)					
—	—	5.8	58.8	9.4	**68.2**

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*........			..............*T. M. C.*.....................									
June	7.7	17.2	0.6				Nil	Nil	Nil	Nil		—	—
July	16.3	34.0	5.4				0.02	..	0.01	0.04		0.06	0.22
August	13.0	20.7	6.5				0.18	0.05	0.09	0.05		0.49	0.27
September	6.9	14.7	1.4				0.22	0.04	0.11	0.12	Not available	0.62	0.68
October	2.5	11.2	Nil	Not available			0.20	0.10	0.13	0.15		0.71	0.82
November	0.9	4.7	,,				0.04	Nil	0.01	0.02		0.06	0.11
December	0.3	2.9	,,				Nil	,,	0.01	0.01		0.06	0.06
January	0.8	5.2	,,				0.01	,,	Nil	0.01		—	0.06
February	0.9	3.7	,,				Nil	,,	,,	0.01		—	0.06
March	0.9	3.2	,,				,,	,,	,,	Nil		—	—
April	0.7	4.7	,,				,,	,,	0.01	,,		0.06	—
May	0.8	6.0	,,				,,	,,	Nil	,,		—	—
Total	**51.7**					(0.3)	**0.67**	**0.19**	**0.37**	**0.41**			

11. Not available

12. (a) Characteristics of soils in the commanded area

Black cotton type and of the type locally known as *Bardi* (red soil with l percentage of clay). The texture varies from light to fairly heavy, with an effective dep of 4 feet to 6 feet

(b) Not available

13. (a) Crop pattern

Kharif		*Rabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Paddy		*Wheat*		
(average for 1941-42 to 1950-51)				
100.0	2.5	—	—	2.5
(average for 1951-52 to 1960-61)				
99.7	4.9	0.3	Nominal	4.9
(as now proposed)				
86.2	5.0	13.8	0.8	5.8

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Delta (feet)		
Kharif	***Rabi***	***Overall***
(for 1950-51)		
2.0	—	2.0
(average for 1951-52 to 1960-61)		
1.6	—	1.6
(as now proposed)		
1.7	1.1	1.6

15. (a) Not available

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

36 wells irrigated 76 acres; excluded from the C.C.A.

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

The supplies available from normal flow during the months of June to August are adequate to meet irrigation requirement. Normally one third of the requirements of *Kharif* irrigation in September, October and November are met from river flow and two third from storage. The Chichbund tank spillway overflows in the months of August and September in some years but the escapage is not dependable.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme

During 1950-51 to 1954-55, the average percentage of net return on capital out-lay was 0.27.

Figures for the period 1956-57 to 1960-61 not available

22. Main features and purpose of the scheme

Irrigation of about 5,000 acres of paddy

BORI TANK

12A-G. 9-Ma.4

1. **Name of State** Madhya Pradesh

2. **Scope of the scheme or system**

   A tank irrigation scheme ; C. C. A. 13,850 acres

3. **Source of supply**

   Gadam Nalla, near Bori/Wainganga/Pranhita/**Godavari**

   Utilisation upstream :

   existing : 10 small tanks, irrigating 1,665 acres
   proposed : minor schemes envisage irrigation of about 1,000 acres

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	0.35 T.M.C.
Dead storage	0.04 T.M.C.
Carry-over	0.12 T.M.C.
Annual reservoir losses	0.08 T.M.C.
Filling period	June to September
Depletion period	July to February
Catchment area	20.6 square miles
Area submerged	760 acres
Full reservoir level	377 } Not with reference to mean sea level
Minimum pond level	358 }

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthen, 6,230 feet long, 55 feet high
Spillway : 420 feet long, capacity 11,649 cusecs
Outlets : barrel type, size 4 feet x 3.5 feet

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. **Description of the canal**

(as during 1941-42 to 1950-51)

Bori Canal (ridge) ; right bank ; 10.6 miles long (branches 14.8 miles) ; one seasonal ; unlined ; authorised capacity **107 cusecs**

(as during 1951-52 to 1960-61)

Canal converted into two seasonal

(as now proposed)

No change

7. **The year from which the scheme is in operation** 1927-28

IRRIGATION ASPECTS

8. **Gross commanded area and culturable commanded area, district-wise**

(as during 1941-42 to 1950-51)

District Seoni

G. C. A.	16,300 acres
C. C. A.	13,900 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. **Area irrigated annually and intensity of irrigation**

Area irrigated annually			*Intensity of irrigation*		
Maximum	*Minimum*	*Average*	*Kharif*	*Rabi*	*Total*
........*thousand acres*..........			........*percentage*..............		
(as during 1941-42 to 1950-51)					
6.0	4.0	5.1	35.7	—	**36.7**
(as during 1951-52 to 1960-61)					
7.2	3.0	6.4	45.3	0.7	**46.0**
(as now proposed)					
—	—	8.5	50.4	10.8	**61.2**

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51*			As during 1955-56 to 1960-61			As proposed	As during 1941-42 to 1950-51	As during 1955-56 to 1960-61	As proposed
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	..	..inches........		....	....	........T.M.C..	....	....	....	....			
June	7.6	17.2	0.6	Nil	Nil	Nil	Nil	Nil	Nil	Nil	—	—	—
July	16.3	28.9	5.4	0.09	,,	0.03	0.05	,,	0.03	0.06	0.10	0.10	0.21
August	12.9	20.7	7.5	0.04	,,	0.07	0.18	0.01	0.08	0.08	0.24	0.28	0.28
September	6.9	14.7	1.4	0.21	0.02	0.11	0.16	0.02	0.08	0.17	0.40	0.29	0.61
October	2.5	11.2	Nil	0.13	0.17	0.13	0.13	0.02	0.09	0.21	0.45	0.31	0.73
November	0.9	4.7	,,	Nil	Nil	Nil	0.01	Nil	0.01	0.03	—	0.04	0.11
December	0.3	2.9	,,	,,	,,	,,	0.01	,,	0.01	0.02	—	0.03	0.07
January	0.7	5.2	,,	,,	,,	,,	0.01	0.01	Nil	0.02	—	—	0.07
February	0.8	3.7	,,	,,	,,	,,	Nil	Nil	,,	0.02	—	—	0.08
March	0.9	3.2	,,	,,	,,	,,	0.01	0.02	0.01	Nil	—	0.03	—
April	0.7	4.7	,,	,,	,,	,,	Nil	Nil	Nil	,,	—	—	—
May	0.8	6.0	,,	,,	,,	,,	,,	,,	,,	,,	—	—	—
Total	**51.3**			**0.47**	**0.19**	**0.34**	**0.56**	**0.08**	**0.31**	**0.61**			

***Withdrawal data not made available**

11. Not available

12. (a) Characteristics of soils in the commanded area

Kanhar (deep black soil) and *Morand*, (red soil with low percentage of clay) ; texture varies from light to fairly heavy; effective soil depth ranges from 4 to 6 feet.

(b) Not available

13. (a) Crop pattern

Kharif		*Rabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Paddy		*Others*		
		(average for 1941-42 to 1950-51)		
100.0	5.1	–	—	5.1
		(average for 1951-52 to 1960-61)		
98.4	6.3	1.6	0.1	6.4
		(as now proposed)		
82.3	7.0	17.7	1.5	8.5

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Delta (feet)		
Kharif	*Rabi*	*Overall*
	(average for 1941-42 to 1950-51)	
1.5	—	1.5
	(average for 1951-52 to 1960-61)	
1.1	—	1.1
	(as now proposed)	
1.7	1.2	1.6

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

Nil

(b) **umber of wells in operation in the irrigated area and the area irrigated therefrom**

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available

The Bqri tank spillway generally overflows in the months of August and September except in years of low supply; escapage not dependable.

17. to 19. Not applicable

GENERAL

20. Aspects **other than irrigation and power ; water supply (month-wise), if any, required for these aspects; financial returns**

Nil

21. Financial return of the scheme

During the period 1950-51 to 1954-55, : 1.8 percent;

During 1956-57 to 1960-61 : 1.1 percent.

22. Main features and purpose of the scheme

Irrigation of 6,000 acres of paddy

MOORUM NALLA TANK

13 A-G.9-Ma.5

1. **Name of State** Madhya Pradesh

2. **Scope of the scheme or system**

   Tank irrigation scheme; C.C.A. 6,963 acres

3. **Source of supply**

   Moorum Nalla near village Bhandamari/Wainganga/Pranhita/**Godavari**

   Utilisation upstream :

   existing : nil

   proposed : nil

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	0.27 T.M.C.
Dead storage	0.01 ,,
Carry-over	Nil
Annual reservoir losses	0.05 T.M.C.
Filling period	June to September
Depletion period	July to mid-February
Catchment area	8.5 square miles
Area submerged	3,482 acres
Full reservoir level	R. L. 1,241
Minimum pond level	R. L. 1,207

(as during 1951-52 to 1960-61)

No change, except that live storage was reduced to 0.22 T.M.C. and full reservoir level to R.L. 1,238 by lowering crest

(as now proposed)

Live storage	0.20 T.M.C.	
Full reservoir level	R.L. 1,236	(crest-level to be lowered)

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam :	earthen, 5,660 feet long, 61.4 feet high
Spillway :	106 feet long, capacity 2,743 cusecs
Outlet :	3 feet x 3.1 feet, capacity 74 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. **Description of the canal**

(as during 1941-42 to 1950-51)

Moorum Canal (contour and ridge); right bank; 11.6 miles long (branches 8.4 miles;) two seasonal; unlined; capacity **74 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. **The year from which the scheme is in operation** 1946-47

IRRIGATION ASPECTS

Gross commanded area and culturable commanded area, district-wise

District Balaghat

(as during 1941-42 to 1950-51)

G.C.A.	11,900	acres
C.C.A.	7,000	,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. **Area irrigated annually and intensity of irrigation**

Area irrigated annually			*Intensity of irrigation*
Maximum	*Minimum*	*Average*	*Kharif*
........*thousand acres*..............			........*percentage*................
(as during 1941-42 to 1950-51)			
4.2	0.9	2.5	35.7
(as during 1951-52 to 1960-61)			
4.4	1.6	3.5	50.0
(as now proposed)			
—	—	5.2	74.3

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1949-50 to 1950-51			As during 1951-52 to 1960-61			As proposed	As during 1949-50 to 1950-51	As during 1951-52 to 1960-61	As proposed
	Normal	Maximum	Minimum	Maximum	Minimum	Average	Maximum	Minimum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches........			.........thousand million cubic feet (T.M.C.)........									
June	8.7	16.3	1.5	Nil	Nil	Nil	Nil	Nil	Nil	Nil	—	—	—
July	14.8	24.8	6.0	"	"	"	"	"	"	0.05	—	—	0.25
August	17.1	18.2	8.7	0.03	0.01	0.02	0.06	"	0.03	0.06	0.10	0.15	0.30
September	9.1	14.4	2.3	0.09	0.01	0.05	0.19	0.04	0.08	0.12	0.26	0.42	0.63
October	3.0	10.0	Nil	0.14	0.07	0.11	0.14	0.03	0.07	0.16	0.56	0.35	0.81
November	0.5	3.2	"	0.02	0.01	0.02	0.04	Nil	0.01	0.02	0.10	0.05	0.10
December	0.3	0.4	"	Nil	Nil	Nil	Nil	"	Nil	Nil	—	—	—
January	0.4	3.8	"	"	"	"	"	"	"	"	—	—	—
February	1.1	2.7	"	"	"	"	"	"	"	"	—	—	—
March	0.9	2.8	"	"	"	"	"	"	"	"	—	—	—
April	0.7	1.6	"	"	"	"	"	"	"	"	—	—	—
May	0.4	1.2	"	"	"	"	"	"	"	"	—	—	—
Total	**57.0**			**0.28**	**0.10**	**0.20**	**0.43**	**0.07**	**0.19**	**0.41**			

11. Not available

12. (a) Characteristics of soils in the commanded area

From light to fairly heavy in texture ; the local names are *Moorand* (red soil with low percentage of clay) *Sihar* and *Mat haira* (mixtures of red and yellow soils)

(b) Has there been any change in the soil characteristics since the introduction of irrigation?

No

13. (a) Crop pattern

Kharif	
Percentage of principal crops	*Total cropped area (T. acres)*
Paddy	
(average for 1941-42 to 1950-51)	
100.0	2.5
(average for 1951-52 to 1960-61)	
100.0	3.5
(as now proposed)	
100.0	5.2

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Delta (feet)
Kharif
(average for 1941-42 to 1950-51)
1.8
(average for 1951-52 to 1960-61)
1.2
(as now proposed)
1.8

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Ex-*malguzari* tanks in the command of Mooram nalla, irrigate 1,573 acres, area included in the C. C. A.

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Nil

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme

During the years 1950-51 to 1954-55, the average net return on capital outlay was minus 0.24 percent

22. Main features and purpose of the scheme

Irrigation of about 3,000 acres of paddy

SARATHI TANK

14A-G.9-Ma.6

1. **Name of State** Madhya Pradesh
2. **Scope of the scheme or system**

   A tank irrigation scheme ; C. C. A. 16,868 acres
3. **Source of supply**

   Sarathi Nalla near village Tikard/Wainganga/Pranhita/**Godavari**

   Utilisation upstream :

   existing : nil
4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	0.57 T. M. C.
Dead storage	0.30 ,,
Carry-over	0.18 ,,
Annual reservoir losses	0.12 ,.
Filling period	June to September
Depletion period	July to April
Catchment area	38 square miles
Area submerged	813 acres
Full reservoir level	R. L. 1,176
Minimum pond level	R. L. 1,147

(as during 1951-52 to 1960-61)

Carry over reduced to 0.13 T. M. C.

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam :	earthen, 6,543 feet long, 58 feet high
Spillway :	393 feet long. capacity 12,200 cusecs
Outlets :	left sluice. 2 feet x 1½ feet, capacity 29 **cusecs** right sluice, 4 feet x 4 feet, capacity 94 **cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Sarathi Left Bank Canal (ridge) ; 5.4 miles long (branches 8.1 miles) ; perennial; unlined; authorised capacity **29 cusecs**

Sarathi Right Bank Canal (contour); 20 miles long (branches 33.3 miles); perennial; unlined; capacity **94 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1918-19

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Balaghat

(as during 1641-42 to 1950-51)

G. C. A.	20,500 acres
G. C. A.	16,900 ,,

(as during 1951-52 to 1960-61)

C. C. A. increased to 17,500 acres

(as now proposed)

C. C. A. to be increased to 18,200 acres

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*			
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*	*Rabi*	*Total*
..............*thousand acres*..............			.........*percentage*....................			
		(as during 1941-42 to 1950-51)				
9.9	7.8	8.7	—	50.9	0.6	**51.5**
		(as during 1951-52 to 1960-61)				
10.5	7.0	9.5	—	53.1	1.1	**54.2**
		(as now proposed)				
—	—	11.6	0.5	57.7	5.5	**63.7**

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As pro-posed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As pro-posed*
	Normal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Average*	*Maxi-mum*	*Mini-mum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*........			......*thousand million cubic feet*(*T. M. C.*)........									
June	7.7	24.9	0.7	Nil	0.01	0.01	Nil	Nil	Nil	Nil	0.03	—	—
July	20.8	38.8	7.2	0.05	Nil	0.03	0.06	,,	0.01	0.09	0.09	0.03	0.27
August	17.0	32.2	5.9	0.28	0.05	0.11	0.18	,,	0.09	0.11	0.33	0.27	0.33
September	10.1	30.0	1.5	0.25	0.02	0.17	0.32	0.06	0.21	0.25	0.53	0.66	0.78
October	2.6	13.9	Nil	0.22	0.29	0.23	0.33	0.13	0.23	0.32	0.70	0.70	0.97
November	0.5	3.7	,,	0.01	Nil	0.02	0.01	Nil	0.01	0.05	0.06	0.03	0.16
December	0.3	4.4	,,	0.01	,,	Nil	Nil	,,	Nil	0.02	—	—	0.06
January	0.7	3.5	,,	0.03	0.01	,,	,,	,,	0.01	0.02	—	0.03	0.06
February	0.9	4.6	,,	0.02	Nil	,,	,,	,,	Nil	0.02	—	—	0.07
March	1.0	5.7	,,	Nil	,,	0.01	,,	,,	,,	0.01	0.03	—	0.03
April	0.5	2.4	,,	0.01	,,	Nil	,,	,,	,,	0.01	—	—	0.03
May	0.6	3.3	,,	0.01	0.01	0.01	,,	,,	0.01	Nil	0.03	0.03	—
Total	**62.7**			**0.89**	**0.39**	**0.59**	**0.90**	**0.19**	**0.57**	**0.90**			

11. Not applicable

12. (a) Characteristics of soils in the commanded area

Light to fairly heavy soils, with an agriculturally usable crust of about 5 feet depth ; *Kanhar* (black cotton soil) in the tail portion

(b) Not available

13. (a) Crop pattern

Perennial		*Kharif*		*Rabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Sugarcane		*Paddy*		*Wheat*		
(average for 1941-42 to 1950-51)						
0.1	Negligible	99.6	**8.6**	0.3	**0.1**	**8.7**
(average for 1951-52 to 1960-61)						
0.1	Negligible	98.4	**9.3**	1.5	**0.2**	**9.5**
(as now proposed)						
0.9	**0.1**	90.5	**10.5**	8.6	**1.0**	**11.6**

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Kharif—June to November
Rabi —December to May

Delta (feet)			
Perennial	*Kharif*	*Rabi*	*Overall*
(average for 1941-42 to 1950-51)			
..	1.6	..	1.6
(average for 1951-52 to 1960-61)			
..	1.4	2.3	1.4
(as now proposed)			
7.6	1.8	0.9	1.8

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Ex-*malguzari* tanks in the commanded area irrigate about 2,200 acres

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

A few *kuchha* wells in the commanded area are used for sugarcane irrigation

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available. The Sarathi tank spillway over flows in the month of August and September except in years of low supply.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects : financial returns

Nil

21. Financial return of the scheme

Combined with Wainganga canal **(9A-G.9-Ma.1)**

22. Main features and purpose of the scheme

Irrigation of about 10,000 acres of paddy

JAMUNIA TANK

15 A-G.9-Ma. 7

1. Name of State Madhya Pradesh

2. Scope of the scheme or system

Tank irrigation scheme ; C.C.A. 11,940 acres

3. Source of supply

Dhoda nalla near Jamunia Village/Wainganga/Pranhita/**Godavari**

Utilisation upstream :

existing : nil

proposed : nil

4. Description of the reservoir or tank

(as during 1941-42 to 1950-51)

Live storage	0.32 T.M.C.
Dead storage	0.02 ,,
Carry-over	0.04 ,,
Annual reservoir losses	0.07 ,,
Filling period	June to mid-September
Depletion period	Mid-September to February
Catchment area	11.8 square miles
Area submerged	560 acres
Full reservoir level	R.L. 1,192
Minimum pond level	R.L. 1,160

(as during 1951-52 to 1960-61)

Carry-over increased to 0.16 T.M.C.

(as now proposed)

No change

5. Description of the headworks

(as during 1941-42 to 1950-51)

Dam : earthen, 9,096 feet long and 50.5 feet high

Spillway : 122 feet long, capacity 3,656 cusecs

Outlets : 3 feet x 3 feet

Capacity : left bank 67 cusecs ; right bank 31 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Jamunia Left Bank Canal (ridge) ; 11.8 miles long (branches 10.8 miles) ; one seasonal ; unlined ; authorised capacity **67 cusecs**

Jamunia Right Bank Canal (contour) ; 3.1 miles long (branches 8.9 miles) ; one seasona unlined ; authorised capacity **31 cusecs**

(as during 1951-52 to 1960-61)

Canals made two seasonal

(as now proposed)

No change

7. The year from which the scheme is in operation 1915-16

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Balaghat

(as during 1941-42 to 1950-51)

G.C.A.	27,500 acres
C.C.A.	11,900 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*		
Maximum	*Minimum*	*Average*	*Kharif*	*Rabi*	*Total*
............*thousand acres*............			..............*percentage*..............		
		(as during 1941-42 to 1950-51)			
5.9	5.0	5.5	46.2	—	**46.2**
		(as during 1951-52 to 1960-61)			
6.0	4.9	5.5	46.0	0.2	**46.2**
		(as now proposed)			
—	—	6.5	50.4	4.2	**54.6**

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				*As during 1941-42 to 1950-51**			*As during 1951-52 to 1960-61***			*As pro-posed*	*As during 1941-42 to 1950-51**	*As during 1951-52 to 1960-61***	*As pro-posed*
	Normal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Average*	*Maxi-mum*	*Mini-mum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*.......			......*thousand million cubic feet(T. M. C.)*.......									
June	8.9	21.5	0.6	Nil	Nil	Nil	Nil	Nil	Nil	Nil	—	—	—
July	16.7	31.0	6.3	,,	0.01	0.01	0.01	,,	0.01	0.05	0.04	0.04	0.19
August	13.2	24.0	4.3	0.07	0.04	0.04	0.18	,,	0.09	0.07	0.15	0.34	0.27
September	7.7	17.1	1.0	0.15	0.17	0.15	0.25	0.09	0.17	0.13	0.59	0.67	0.51
October	2.2	9.6	Nil	0.22	0.01	0.17	0.20	0.08	0.15	0.18	0.65	0.57	0.69
November	0.5	4.0	,,	0.04	Nil	0.01	0.04	Nil	0.01	0.03	0.04	0.04	0.12
December	0.2	2.6	,,	Nil	,,	Nil	Nil	,,	Nil	0.01	—	—	0.04
January	0.7	5.6	,,	,,	,,	,,	0.01	,,	0.01	0.01	—	0.04	0.04
February	0.7	3.6	,,	,,	,,	,,	Nil	,,	Nil	0.01	—	—	0.04
March	0.8	5.5	,,	,,	,,	,,	,,	,,	,,	Nil	—	—	—
April	0.5	3.3	,,	,,	,,	,,	,,	,,	,,	,,	—	—	—
May	0.8	5.0	,,	,,	,,	,,	,,	,,	,,	,,	—	—	—
Total	52.9			0.48	0.23	0.38	0.69	0 17	0.44	0.49			

**Omitting the years 1942-43 to 1944-45 and 1950-51*

***Omitting the years 1951-52 and 1954-55.*

11. Not available

12. (a) **Characteristics of soils in the commanded area**

Vary from light to fairly heavy with agriculturally usable crust of about 6 feet in depth. *Kanhar* (black cotton soil) and loamy yellow soil mixed with sand and a little clay are also found

(b) Not available

13. (a) **Crop pattern**

Kharif		*Rabi*		
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. area)*	*Total cropped area (T. acres)*
Paddy		*Wheat*		
(average for 1941-42 to 1950-51)				
100.0	5.5	Nil	—	5.5
(average for 1951-52 to 1960-61)				
99.5	5.5	0.5	Negligible	5.5
(as now proposed)				
92.4	6.0	7.6	0.5	6.5

(b) **Are there any rules for regulating crop pattern ?**

No

14. **Delta at canal head**

Delta (feet)		
Kharif	*Rabi*	*Overall*
(average for 1941-42 to 1950-51)		
1.6	—	1.6
(average for 1951-52 to 1960-61)		
1.8	—	1.8
(as now proposed)		
1.7	1.8	1.7

15. (a) Number of tanks in operation in the irrigated area and the area irrigated thereform

Small *ex-malguzari* tanks in the commanded area irrigate annually 6,600 acres ; area included in the C.C.A.

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

1,104 wells irrigating 615 acres; area excluded from the C.C.A.

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available.
The Jamunia tank spillway over-flows in the months of August and September in some years but the escapage is not dependable.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme

Average for the period 1950-51 to 1954-55 : 1.71 percent
Average for the period 1956-57 to 1960-61 : 1.32 percent

22. Main features and purpose of the scheme

Irrigation of about 6,000 acres of paddy

GODAVARI CANALS

16A-G. 1-M.1

1. **Name of State** Maharashtra (formerly in Bombay)

2. **Scope of the scheme or system**

   Irrigation scheme ; flow-cum-storage ; C. C. A. 219,000 acres

3. **Source of supply**

   (i) Dharna at Nandgaon/**Godavari** (ii) **Godavari at Nandur-madhmeshwar**

   Utilisation upstream

   existing : Kadwa river works 1.38 T. M. C.

   Nasik canal 7.35 T. M. C. and minor works

4. **Description of the dam and reservoir or tank**

(as during 1941-42 to 1950-51)

	Dharna
Live storage	7.80 T. M. C.
Dead storage	0.10 ,,
Carry-over	1.60 ,,
Annual reservoir losses	1.30 ,,
Filling period	15th June to end of September
Depletion period	1st of October to 14th June
Catchment area	156 square miles
Area submerged	8,320 acres
Full reservoir level	R.L. 1,875
Minimum pond level	R.L. 1,810

Note : The Gangapur storage also provides river supply (1. 2 T. M. C.) for the Godavari canals from 1955

Dam : masonry ; 5,360 feet long, 82 feet high

Spillway : waste weir with 50 gates, 10 feet × 10 feet 3 inches each
total capacity 71,250 cusecs

Outlets : river sluices, six, 10 feet × 6 feet each,
scouring sluices, two. 10 feet × 6 feet each,
turbine sluices, two, 10 feet × 6 feet each,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. Description of the headworks

(as during 1941-42 to 1950-51)

Weir : length 3,618 feet ; capacity 315,000 cusecs
Scour sluices : eight, 10 feet × 7 feet each and two, 4 feet × 5 feet each
Regulators : right bank, 3 vents, 10 feet × 7 feet each
left bank, 3 vents, 10 feet × 6 feet each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Godavari Right Bank Canal (contour) ; 69 miles long ; perennial ; unlined ; authorised capacity **384 cusecs**

Godavari Left Bank Canal (contour) ; 48 miles long ; perennial up to mile 44/4 and seasonal beyond ; unlined ; authorised capacity **228 cusecs**

(as during 1951-52 to 1960-61)

Godavari Right Bank Canal authorised capacity increased to **534 cusecs**
Godavari Left Bank Canal authorised capacity increased to **303 cusecs**

(as now proposed)

No change

7. The year from which the scheme is in operation 1915-16

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

Item	*Names of districts*		*Total*
	Ahmednagar	*Nasik*	
	..................*thousand acres*..................		
	(as during 1941-42 to 1950-51)		
G.C.A. Right Bank Canal	130.8	13.5	**144.3**
Left Bank Canal	67.4	20.7	**88.1**
C.C.A. Right Bank Canal	123.3	12.7	**136.0**
Left Bank Canal	63.6	19.4	**83.0**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation (*See Annexure I*)

	Area irrigated annually			*Intensity of irrigation*					
	Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Hot weather*	*Total*
	......*thousand acres*.....			.....................*percentage*.............					
			(*as during 1941-42 to 1950-51*)						
Godavari Right Bank Canal	35.4	17.9	25.9	5.9	2.1	4.2	5.8	1.0	19.0
Godavari Left Bank Canal	26.0	14.6	20.7	9.0	2.6	4.8	6.6	1.9	24.9
			(*as during 1951-52 to 1960-61*)						
Godavari Right Bank Canal	38.4	29.2	32.9	7.5	2.6	3.5	10.1	0.5	24.2
Godavari Left Bank Canal	30.2	18.8	24.5	10.4	3.5	2.7	10.9	2.0	29.5

(*as now proposed*)

Supplies from Gangapur storage will enable additional irrigation as below :

Godavari Right Bank Canal	12.000 acres
Godavari Left Bank Canal	8,000 acres

Part of this increase has already appeared in the figures for 1951-52 to 1960-61

10. Normal rainfall and river supply diverted

(i) Godavari Right Bank Canal

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*........			......................*T.M.C*....................									
June	4.0	15.9	0.1	0.58	0.32	0.50	0.53	0.61	0.48	(15th June to 14th Oct.) 2.49	0.50	0.48	0.44
July	3.5	10.9	0.5	0.70	0.27	0.48	0.51	0.66	0.53		0.47	0.52	
August	3.0	8.6	0.2	0.51	0.49	0.49	0.48	0.52	0.49		0.48	0.48	
September	5.5	15.9	0.2	0.69	0.46	0.47	0.64	0.35	0.52		0.47	0.52	
October	2.2	12.1	Nil	0.65	0.59	0.59	0.77	0.29	0.46	(15th Oct. to 14th Feb.) 2.72	0.57	0.45	0.48
November	1.0	8.1	,,	0.59	0.16	0.54	0.80	0.80	0.75		0.54	0.75	
December	0.2	4.8	,,	0.65	0.46	0.55	0.87	0.50	0.68		0.53	0.66	
January	0.2	2.2	,,	0.48	0.51	0.49	0.65	0.84	0.65		0.48	0.63	
February	0.1	1.3	,,	0.42	0.49	0.46	0.50	0.48	0.47	(15th Feb. to 14th June) 2.60	0.50	0.51	0.47
March	0.1	1.5	,,	0.52	0.62	0.53	0.59	Nil	0.49		0.52	0.48	
April	0.2	1.2	,,	0.53	0.44	0.57	0.60	,,	0.51		0.57	0.51	
May	0.7	3.2	,,	0.55	0.70	0.64	0.68	0.57	0.61		0.62	0.59	
Total	**20.7**			**6.87**	**5.51**	**6.32**	**7.62**	**5.62**	**6.63**	**7.81**			

10. Normal rainfall and river supply diverted

(ii) Godavari Left Bank Canal

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			As during 1951-52 to 1960-61			As pro-posed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches........			.........thousand million cubic feet (T.M.C.)........									
June	4.0	15.9	0.1	0.41	0.40	0.33	0.35	0.18	0.28	(15th June to 14th Oct.) 1.55	0.56	0.47	0.49
July	3.8	10.9	0.5	0.47	Nil	0.27	0.40	0.43	0.34		0.44	0.56	
August	3.0	8.6	0.2	0.33	0.38	0.32	0.35	0.27	0.30		0.52	0.49	
September	5.5	15.9	Nil	0.38	0.27	0.28	0.30	0.37	0.32		0.47	0.54	
October	2.0	12.1	,,	0.42	0.35	0.37	0.32	0.29	0.33	(15th Oct. to 14th Feb.) 1.78	0.61	0.54	0.55
November	1.0	8.1	,,	0.34	0.34	0.33	0.34	0.41	0.41		0.56	0.69	
December	0.2	4.8	,,	0.41	0.29	0.36	0.64	0.31	0.43		0.59	0.70	
January	0.2	2.2	,,	0.28	0.27	0.31	0.41	0.35	0.40		0.51	0.65	
February	0.1	1.3	,,	0.27	0.27	0.31	0.32	0.18	0.32	(15th Feb. to 14th June) 1.70	0.56	0.58	0.54
March	0.1	1.5	,,	0.35	0.28	0.36	0.44	0.30	0.37		0.59	0.61	
April	0.2	1.2	,,	0.34	0.32	0.37	0.55	0.33	0.40		0.63	0.68	
May	0.7	3.2	,,	0.40	0.39	0.40	0.42	0.31	0.42		0.65	0.69	
Total	**20.8**			**4.40**	**3.56**	**4.00**	**4.84**	**3.73**	**4.31**	**5.03**			
Total for bothcanals				**11.27**	**9.07**	**10.32**	**12.46**	**9.35**	**10.94**	**12.84**			

11. Not available

12. (a) Characteristics of soils in the commanded area

	Godavari Right Bank Canal Percentage	Godavari Left Bank Canal Percentage
Sandy to sandy loam	21	5
Silty loam to clayey loam	25	30
Clayey loam to clay	54	65

A soil depth of more than 18 inches is available in 60 percent of the command and between 9 inches to 18 inches in the remaining area

(b) Has there been any change in the soil characteristics since the introduction of irrigation ? No

13. (a) Crop pattern (*See Annexure I*)

Perennial			*Two seasonal*			*Kharif*				*Rabi*				*Hot weather*		
Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*			*Total area (T. acres)*	*Percentage of principal crops*			*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Total cropped area (T. acres)*
Sugar-cane	*Others*		*Cotton*	*Others*		*Paddy*	*Bajri*	*Others*		*Jowar*	*Wheat*	*Othe·*		*Others*		
Godavari Right Bank Canal																
							(average for 1941-42 to 1950-51)									
25.2	5.6	**8.0**	0.4	10.8	**2.9**	1.3	11.9	8.8	5.7	16.9	7.5	6.4	**8.0**	5.2	**1.3**	**25.9**
							(average for 1951-52 to 1960-61)									
24.5	6.4	**10.1**	2.2	8.6	**3.6**	1.0	7.2	6.0	**4.7**	29.4	10.3	2.2	**13.8**	2.2	**0.7**	**32.9**
							(as now proposed)									
19.6	5.4	**9.7**	—	8.7	**3.3**	2.0	18.0	8.0	**10.8**	3.0	10.5	20.4	**13.1**	4.4	**1.7**	**38.6**
Godavari Left Bank Canal																
							(average for 1941-42 to 1950-51)									
27.8	8.2	**7.5**	0.1	10.2	**2.1**	1.7	10.0	7.8	**4.0**	9.7	11.0	5.8	**5.5**	7.7	**1.6**	**20.7**
							(average for 1951-52 to 1960-61)									
26.8	8.3	**8.6**	2.4	9.4	**2.9**	1.6	3.6	4.2	**2.3**	23.6	10.4	3.0	**9.0**	6·7	**1.7**	**24.5**
							(as now proposed)									
22.7	7.5	**8.4**	—	8.6	**2.4**	2.0	12.0	10.8	**6.9**	3.5	7.8	18.6	**8.3**	6.5	**1.8**	**27.8**

(b) Are there any rules for regulating crop pattern ?

No, but crop pattern is regulated by provisions of contracts

14. Delta at canal head

	Delta (feet)					
	Kharif		*Rabi*		*Hot weather*	
	Cane	*Seasonal*	*Cane*	*Seasonal*	*Cane*	*Seasonal*
Godavari Right Bank Canal						
	(average for 1941-42 to 1950-51)					
As worked out by the State on cane basis	4.0	1.3	4.3	1.4	6.5	3.3
Overall on mixed crops	5.6					
	(average for 1951-52 to 1960-61)					
As worked out by the State on cane basis	3.7	1.2	3.7	1.2	6.3	3.2
Overall on mixed crops	4.6					
	(as now proposed)					
	No change					
Godavari Left Bank Canal						
	(average for 1941-42 to 1950-51)					
As worked out by the State on cane basis	5.0	1.7	4.1	1.4	4.7	2.4
Overall on mixed crops	4.4					
	(average for 1951-52 to 1960-61)					
As worked out by the State on cane basis	3.0	1.0	3.4	1.1	7.3	3.6
Overall on mixed crops	4.0					
	(as now proposed)					
	No change					

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

		Godavari Right Bank Canal	*Godavari Left Bank Canal*
Number of wells		3,907	695
Crops irrigated in thousand acres included in C.C.A.	Cane	4.3	2.2
	Other perennial	1.5	0.3
	Seasonal	0.5	—
		6.3	2.5

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

The average river flow for the twenty years ending May 1961 is 92 T.M.C.; much in excess of requirements of the Godavari Canals

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme

3.94 percent in 1955-56

22. Main features and purpose of the scheme

Irrigation of about 56,000 acres of land with high proportion of sugarcane

GODAVARI RIGHT

STATEMENT SHOWING AREA

Year	*Area irrigated by crops (acres)*					
	Perennial			*Two seasonal*		*Total*
	Sugarcane	*Others*	*Total*	*Cotton*	*Others*	
1941-42	5,367	1,261	**6,628**	807	886	**1,693**
42-43	5,151	1,484	**6,635**	4	2,838	**2,842**
43-44	4,232	1,286	**5,518**	42	3,977	**4,019**
44-45	6,861	1,350	**8,211**	1	4,069	**4,070**
45-46	6,427	1,435	**7,862**	5	2,834	**2,839**
46-47	6,500	1,519	**8,019**	2	2,793	**2,795**
47-48	7,357	1,507	**8,864**	4	2,549	**2,553**
48-49	7,471	1,566	**9,037**	7	1,821	**1,828**
49-50	7,761	1,388	**9,149**	8	3,153	**3,161**
50-51	8,181	1,718	**9,899**	191	3,015	**3,206**
1951-52	7,772	1,626	**9,398**	1,561	3,580	**5,141**
52-53	7,412	1,585	**8,997**	369	1,992	**2,361**
53-54	9,244	1,716	**10,960**	66	2,616	**2,682**
54-55	9,612	1,713	**11,325**	103	2,996	**3,099**
55-56	9,032	1,558	**10,590**	1,200	5,537	**6,737**
56-57	7,214	1,594	**8,808**	1,244	2,306	**3,550**
57-58	7,328	6,739	**14,067**	862	2,812	**3,674**
58-59	7,215	1,355	**8,570**	293	2,821	**3,114**
59-60	7,878	1,216	**9,094**	481	2,768	**3,249**
60-61	7,803	1,798	**9,601**	1,202	765	**1,967**
Average for the 10 years from 1941-42 to 1950-51	**6,531**	**1,451**	7,982	**107**	**2,794**	**2,901**
Average for the 10 years from 1951-52 to 1960-61	**8,051**	**2,090**	**10,141**	**738**	**2,819**	**3,557**

BANK CANAL

Annexure I

IRRIGATED BY CROPS

Area irrigated by crops (acres)									
Kharif				*Rabi*				*Hot weather*	*Grand Total*
Paddy	*Bajri*	*Others*	*Total*	*Jowar*	*Wheat*	*Others*	*Total*	*Others*	
12	517	4,286	**4,815**	693	328	3,028	**4‘049**	667	**17,852**
40	1,204	2,474	**3,718**	2,907	3,759	1,904	**8,570**	404	**22,169**
34	2,992	720	**3,746**	3,026	3,284	*Nil*	**6,310**	846	**20,439**
202	3,763	370	**4,335**	2,906	2,210	,,	**S,116**	823	**22,555**
517	5,731	3,216	**9,464**	5,644	1,558	2,909	**10,111**	1,759	**32,035**
374	6,346	3,592	**10,312**	6,960	1,581	3,423	**11,964**	2,327	**35,417**
370	3,346	3,190	**6,906**	5,065	1,543	2,984	**9‘592**	2,099	**30,014**
429	1,957	1,083	**3,469**	4,183	1,086	721	**5,990**	1,338	**21,662**
161	2,502	2,744	**5.407**	6,178	2,003	1,547	**9,728**	1,223	**28,668**
1,205	2,511	1,148	**4,864**	6,090	2,083	134	**8,307**	1,866	**28,142**
408	2,090	2,585	**5,083**	5,800	2,270	1,648	**9,718**	592	**29,932**
418	2,161	3,669	**6,248**	4,958	3,775	2,500	**11,233**	539	**29,378**
497	3,719	1,242	**5,458**	9,529	2,533	*Nil*	**12,062**	851	**32,013**
400	3,696	1,653	**5,749**	9,674	3,460	,,	**13,134**	807	**34,114**
250	3,999	1,589	**5,838**	10,735	3,909	,,	**14,644**	612	**38,421**
277	3,360	1,385	**5,022**	8,223	2,701	,,	**10,924**	937	**29,241**
262	1,116	1,954	**3,332**	10,331	3,766	,,	**14,097**	926	**36,096**
111	1,089	1,900	**3,100**	10,839	3,673	,,	**14,512**	618	**29,914**
336	1,065	1,551	**2,952**	13,387	4,348	,,	**17,735**	806	**33,836**
397	1,457	1,996	**3,850**	13,322	3,274	3,223	**19,819**	609	**35,846**
334	**3,087**	**2,283**	**5,704**	**4,365**	**1,944**	**1,665**	**7,974**	**1,335**	**25,895**
336	**2,375**	**1,952**	**4,663**	**9,680**	**3,371**	**737**	**13,788**	**730**	**32,879**

GODAVARI LEFT

STATEMENT SHOWING AREA

Year	*Area irrigated by crops (acres)*					
	Perennial			*Two seasonal*		
	Sugarcane	*Others*	*Total*	*Cotton*	*Others*	*Total*
1941-42	4,701	1,267	**5,968**	77	1,489	**1,566**
42-43	4,213	1,575	**5,788**	*Nil*	1,484	**1,484**
43-44	5,111	1,610	**6,721**	,,	1,425	**1,425**
44-45	9,469	1,502	**10,971**	,,	1,762	**1,762**
45-46	4,971	1,736	**6,707**	,,	2,733	**2,733**
46-47	4,697	1,891	**6,588**	,,	2,217	**2,217**
47-48	6,268	1,985	**8,253**	,,	2,750	**2,750**
48-49	6,166	1,844	**8,010**	,,	1,921	**1,921**
49-50	6,179	1,740	**7,919**	,,	2,059	**2,059**
50-51	5,709	1,880	**7,589**	153	3,321	**3,474**
1951-52	6,047	1,981	**8,028**	411	3,968	**4,379**
52-53	5,644	2,015	**7,659**	19	2,992	**3,011**
53-54	6,026	2,133	**8,159**	1	3,332	**3,333**
54-55	7,634	2,640	**10,274**	77	3,035	**3,112**
55-56	6,971	2,055	**9,026**	1,513	1,621	**3,134**
56-57	6,655	1,669	**8,324**	758	1,682	**2,440**
57-58	6,575	1,509	**8,084**	522	1,970	**2,492**
58-59	6,996	1,292	**8,288**	117	1,232	**1,349**
59-60	7,254	1,310	**8,564**	750	1,451	**2,201**
60-61	5,818	3,947	**9,765**	1,655	1,910	**3,565**
Average for the 10 years from 1941-42 to 1950-51	**5,748**	**1,703**	**7,451**	**23**	**2,116**	**2,139**
Avrage for the 10eyears from 10951-52 to 1960-61	**6,562**	**2,055**	**8,617**	**582**	**2,319**	**2,902**

IRRIGATED BY CROPS

Area irrigated by crops (acres)									
Kharif				*Rabi*				*Hot weather*	*Grand Total*
Paddy	*Bajri*	*Others*	*Total*	*Jowar*	*Wheat*	*Others*	*Total*		
4	842	2,190	**3,036**	543	611	1,843	**2,997**	1,024	**14,591**
42	1,553	1,822	**3,417**	1,528	5,175	1,478	**8,181**	982	**19,852**
16	1,498	95	**1,609**	1,071	3,923	*Nil*	**4,994**	1,390	**16,139**
134	1,013	529	**1,676**	1,150	1,008	,,	**2,158**	1,299	**17,866**
940	5,025	1,136	**7,101**	3,105	3,511	903	**7,519**	1,938	**25,998**
484	3,954	2,484	**6,922**	3,823	2,263	2,131	**8,217**	1,562	**25,506**
426	2,820	1,111	**4,357**	1,840	1,579	691	**4,110**	2,589	**22,059**
307	1,411	1,072	**2,790**	1,996	1,528	616	**4,140**	1,836	**18,697**
389	1,301	4,077	**5,767**	1,943	1,347	3,281	**6,571**	1,308	**23,624**
824	1,213	1,555	**3,592**	2,933	1,781	983	**5,697**	2,035	**22,387**
724	864	2,297	**3,885**	3,266	2,513	1,862	**7,641**	2,009	**25,942**
380	1,525	2,973	**4,878**	2,509	2,754	2,397	**7,660**	1,368	**24,576**
672	1,509	391	**2,572**	4,818	2,060	*Nil*	**6878**	2,068	**23,010**
432	1,543	674	**2,649**	4,665	2,650	,,	**7,315**	2,283	**25,633**
253	1,278	570	**2,101**	6,462	4,122	,,	**10,584**	2,169	**27,014**
171	408	498	**1,077**	3,831	1,403	,,	**5,234**	1,685	**18,760**
263	409	590	**1,262**	7,807	2,988	,,	**10,795**	1,840	**24,473**
281	255	346	**882**	6,744	2,413	,,	**9,157**	249	**19,925**
318	681	653	**1,652**	9,056	2,849	,,	**11,904**	1,377	**25,699**
389	306	1,212	**1,907**	8,633	1,800	2,996	**13,429**	1,495	**30,161**
357	**2,063**	**1,607**	**4,027**	**1,993**	**2,273**	**1,193**	**5,458**	**1,596**	**20,672**
388	**878**	**1,020**	**2,286**	**5,779**	**2,555**	**726**	**9,060**	**1,654**	**24,519**

KADWA RIVER WORKS

17A G. 1-M. 2

1. **Name of State** Maharashtra (formerly in Bombay)

2. **Scope of the scheme or system**

Irrigation scheme; flow-cum-storage; C.C.A. 36,400 acres

3. **Source of supply**

Storage on Kolwan at Waghad/Kadwa/**Godavari**
Weirs on Kadwa at Palkhed and Wadali/**Godavari**
Weir on Banganga at Ozar-Tambat/**Godavari**
Utilisation upstream:
existing : nil

4. **Description of the dam and reservoir or tank**

(as during 1941-42 to 1950-51)

	Waghad Tank	
Live storage	0.50 T.M.C.	
Dead storage	0.10 ,,	
Carry-over	0.10 ,,	
Annual reservoir losses	0.10 ,,	
Filling period	15th June to end of September	
Depletion period	Beginning of October to 14th June	
Catchment area	29 square miles	
Full reservoir level	R.L. 128	(arbitrary datum)
Minimum pond level	R.L. 80	(arbitrary datum)

Dam : earthen, 4,840 feet long, 96 feet high
Spillway : gated masonry weir on left flank; 12 openings, 10.25 feet x 8 feet each and also open waste weir 200 feet long
Outlets : sluices 3 numbers, 1.5 feet diameter each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. Description of the headworks

(as during 1941-42 to 1950-51)

Palkhed weir, 800 feet long, capacity 67,000 cusecs
Outlets, one, 3 feet x 4 feet and two, 4.5 feet x 4 feet each

Wadali weir, 655 feet long; capacity 15,392 cusecs
Outlets, one, 3 feet x 3 feet

Ozar Tambat weir; 258 feet long capacity 13,628 cusecs
two outlets, 2 feet x 2.5 feet each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Palkhed Canal (contour); right bank; 11 miles long; perennial; unlined ; capacity **63 cusecs**

Wadali Canal (contour); right bank; 8.6 miles long; perennial; unlined; capacity **19 cusecs**

Ozar Tambat Canal (contour); right bank; 4.5 miles long; perennial; unlined ; capacity **33 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1868-69

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Nasik

	Palkhed Canal	*Wadali Canal*	*Ozar Tambat Canal*	*Total*
		thousand acres		
		(as during 1941-42 to 1950-51)		
G.C.A.	28.8	3.5	8.1	**40.4**
C.C.A.	26.3	2.7	7.4	**36.4**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

	Area irrigated annually			*Intensity of irrigation*					
	Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Hot weather*	*Total*
	....*thousand acres*....			................*percentage*................					
				(as during 1941-42 to 1950-51)					
Palkhed Canal	3.9	1.6	2.3	0.7	2.7	3.4	1.5	0.4	**8.7**
Wadali Canal	1.9	0.8	1.1	7.4	7.4	14.8	11.1	—	**40.7**
Ozar Tambat Canal	2.4	1.1	1.9	4.1	5.4	9.5	6.7	—	**25.7**
				(as during 1951-52 to 1960-61)					
Palkhed Canal	2.2	1.5	1.8	0.7	1.9	3.0	0.8	0.4	**6.8**
Wadali Canal	1.4	0.8	1.0	3.7	7.4	11.1	14.8	—	**37.0**
Ozar Tambat Canal	1.6	1.0	1.3	4.1	4.0	5.4	4.1	—	**17.6**

(as now proposed)

No change

10. Normal rainfall and river supply diverted

(i) Palkhed Canal

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			As during 1951-52 to 1960-61			As pro-posed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches........			......thousand million cubic feet (T. M. C.)......									
June	9.0	9.5	Nil	0.05	0.03	0.03	0.04	0.03	0.04		0.18	0.25	
July	6.5	25.6	2.6	0.04	0.01	0.01	0.05	0.04	0.05		0.06	0.30	
August	5.0	10.9	1.1	0.06	0.02	0.04	0.06	0.07	0.08		0.24	0.47	
September	7.0	7.4	0.9	0.03	0.02	0.03	0.09	0.06	0.07	No	0.18	0.43	No
October	2.3	9.0	Nil	0.06	0.05	0.06	0.07	0.07	0.08	hange	0.36	0.47	change
November	0.8	7.4	,,	0.08	0.06	0.06	0.09	Nil	0.07		0.37	0.43	
December	0.2	2.3	,,	0.07	0.05	0.06	0.08	,,	0.06		0.36	0.36	
January	0.1	1.7	,,	0.06	0.05	0.06	0.10	,,	0.06		0.36	0.36	
February	Nil	0.1	,,	0.07	0.04	0.06	0.08	0.05	0.05		0.39	0.33	
March	0.1	1.3	,,	0.08	0.05	0.06	0.10	0.05	0.06		0.36	0.36	
April	0.2	3.3	,,	0.08	0.04	0.06	0.08	0.06	0.05		0.37	0.31	
May	0.8	3.6	,,	0.06	0.03	0.05	0.05	0.03	0.04		0.30	0.24	
Total	**32.0**			**0.74**	**0.45**	**0.58**	**0.89**	**0.46**	**0.71**				

10. Normal rainfall and river supply diverted

(ii) Wadali Canal

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As pro-posed*	*As during 1941-42 to 1950 51*	*As during 1951-52 to 1960-61*	*As pro-posed*
	Normal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Average*	*Maxi-mum*	*Mini-mum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........*inches*........			............*thousand million cubic feet (T. M. C.)*......									
June	4.3	8.8	0.1	0.02	0.01	0.01	0.01	0.01	0.01	No change	0.20	0.20	No change
July	5.5	11.1	1.4	0.02	Nil	0.01	0.01	0.01	0.01		0.20	0.20	
August	4.7	7.0	0.4	0.02	,,	0.01	0.02	0.02	0.02		0.20	0.39	
September	6.5	11.2	0.1	0.01	0.01	0.01	0.05	0.01	0.02		0.20	0.41	
October	2.2	8.3	Nil	0.03	0.02	0.02	0.04	0.01	0.02		0.39	0.39	
November	0.8	5.1	,,	0.03	0.02	0.02	0.05	0.01	0.03		0.41	0.61	
December	0.2	1.4	,,	0.03	0.02	0.02	0.04	0.01	0.02		0.39	0.39	
January	0.1	0.7	,,	0.02	0.02	0.02	0.03	0.02	0.02		0.39	0.39	
February	Nil	0.2	,,	0.03	0.01	0.02	0.02	0.01	0.02		0.43	0.43	
March	0.1	0.9	,,	0.03	0.02	0.02	0.02	0.01	0.01		0.39	0.20	
April	0.2	2.0	,,	0.02	0.02	0.02	0.01	0.02	0.01		0.41	0.20	
May	0.8	3.1	,,	0.02	0.02	0.02	0.01	0.02	0.01		0.39	0.20	
Total	**25.4**			**0.28**	**0.17**	**0.20**	**0.31**	**0.16**	**0.20**				

10. Normal rainfall and river supply diverted
Ozar-Tambat Canal

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As proposed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........*inches*........			..............*thousand million cubic feet* (*T. M. C.*)......									
June	5.3	7.4	Nil	0.05	0.03	0.03	0.05	0.01	0.03	No change	0.35	0.35	No change
July	5.5	15.3	2.3	0.04	0.01	0.02	0.08	0.03	0.04		0.23	0.45	
August	4.9	8.4	0.4	0.04	0.01	0.03	0.06	0.04	0.06		0.34	0.68	
September	6.0	13.2	0.7	0.02	0.02	0.03	0.04	0.05	0.05		0.35	0.58	
October	2.5	9.2	Nil	0.04	0.03	0.04	0.04	0.04	0.05		0.45	0.57	
November	0.3	6.5	,,	0.06	0.04	0.05	0.06	0.05	0.05		0.58	0.58	
December	1.2	2.5	,,	0.04	0.05	0.05	0.06	0.04	0.05		0.45	0.45	
January	0.1	2.0	,,	0.05	0.05	0.05	0.05	Nil	0.04		0.57	0.45	
February	0.7	0.1	,,	0.06	0.03	0.05	0.04	,,	0.03		0.63	0.38	
March	0.1	0.1	,,	0.06	0.05	0.06	0.06	,,	0.03		0.68	0.34	
April	0.2	4.3	,,	0.08	0.05	0.06	0.05	,,	0.03		0.70	0.35	
May	0.8	4.3	,,	0.05	0.03	0.05	0.05	,,	0.02		0.57	0.34	
Total	**27.6**			**0.59**	**0.40**	**0.52**	**0.64**	**0.26**	**0.48**				
Total of all three Canals				**1.61**	**1.02**	**1.30**	**1.84**	**0.88**	**1.39**				

11,-12. Not available

13. (a) Crop pattern

Perennial			*Two seasonal*			*Kharif*				*Rabi*				*Hot weather*		*Total cropped area (T. acres)*
Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*			*Total area (T. acres)*	*Percentage of principal crops*			*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Sugarcane	*Others*		*Cotton*	*Others*		*Paddy*	*Bajri*	*Others*		*Jowar*	*Wheat*	*Others*		*Others*		
Palkhed Canal																
(as during 1941-42 to 1950-51)																
6.2	2.5	**0.2**	—	30.4	**0.7**	5.7	8.9	24.5	**0.9**	0.9	11.9	4.6	**0.4**	4.4	**0.1**	**2.3**
(as during 1951-52 to 1960-61)																
6.2	4.9	**0.2**	—	27.8	**0.5**	13.2	3.1	28.1	**0.8**	0.6	9.7	0.8	**0.2**	5.6	**0.1**	**1.8**
(as now proposed) No change																
Wadali Canal																
(as during 1941-42 to 1950-51)																
8.3	9.9	**0.2**	—	18.2	**0.2**	4.6	7.0	24.7	**0.4**	0.6	15.2	11.5	**0.3**	—	—	**1.1**
(as during 1951-52 to 1960-61)																
6.9	3.1	**0.1**	0.3	19.7	**0.2**	11.5	2.2	16.3	**0.3**	1.8	16.6	21.6	**0.4**	1.3	Negligible	**1.0**
(as now proposed) No change																
Ozar-Tambat Canal																
(as during 1941-42 to 1950-51)																
10.2	5.6	**0.3**	—	21.1	**0.4**	4.5	10.0	22.3	**0.7**	0.6	8.8	16.9	**0.5**	—	—	**1.9**
(as during 1951-52 to 1960-61)																
12.6	10.5	**0.3**	—	23.1	**0.3**	8.3	4.2	18.2	**0.4**	3.0	11.1	9.0	**0.3**	—	Negligible	**1.3**
(as now proposed) No change																

(b) Are there any rules for regulating crop pattern ?	No, but crop pattern is regulated by contract provisions

14. Delta at canal head

	Delta (feet)			
	Kharif	*Rabi*	*Hot weather*	*Overall*
Palkhed Canal	*(average for 1941-42 to 1950-51)*			
	1.6	4.1	15.7	5.8
	(average for 1951-52 to 1960-61)			
	3.4	6.3	17.7	9.1
	(as now proposed) No change			
Wadali Canal	*(average for 1941-42 to 1950-51)*			
	1.9	3.0	8.3	4.2
	(average for 1951-52 to 1960-61)			
	1.7	2.8	14.5	4.6
	(as now proposed) No change			
Ozar Tambat Canal	*(average for 1941-42 to 1950-51)*			
	1.6	3.6	16.2	6.3
	(average for 1951-52 to 1960-61)			
	4.0	4.5	20.7	8.5
	(as now proposed) No change			

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

367 wells, each irrigating about 2 to 3 acres of seasonal crops, area included in the C.C.A.

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

Supplies utilised are a fraction of the total supplies available and there is appreciable escapage in all years, during monsoon months July to October ; average escapage for 20 years (1941-60) being of the order of 21 T. M. C.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Financial return of the scheme

9.65 percent in 1955-56

22. Main features and purpose of the scheme

Irrigation of about 5,000 acres

PRAVARA CANALS

18A-G. 2-M. 3

1. **Name of State** Maharashtra (formerly in Bombay)

2. **Scope of the scheme or system**

   Irrigation scheme ; flow-cum-storage ; C.C.A. 157,440 acres

3. **Source of supply**

   (i) Storage on Pravara near Bhandardara/**Godavari**

   (ii) Pick-up weir 53 miles downstream of storage on Pravara at Ozar/**Godavari**

   Utilisation upstream : minor works 1.00 T. M. C. (between Bhandardara and Ozar weir)

4. **Description of the dam and reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	11. 20 T. M. C.
Dead storage	(Negligible)
Carry-over	1.50 T.M.C.
Annual reservoir losses	0.90 ,,
Filling period	15th June to end of, September
Depletion period	15th June to 14th June of following year
Catchment area	47 square miles
Area submerged	7.25 square miles
Full reservoir level	R.L. 2,443
Minimum pond level	R.L. 2,228

Dam : masonry, 1,663 feet long, 270 feet high

Spillway : 800 feet long, capacity 21,000 cusecs

Outlets : 8 vents, 36 inches diameter

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. Description of the headworks

(as during 1941-42 to 1950-51)

Pick-up weir at Ozar 890 feet long ; capacity 40,200 cusecs.
Sluices : three, 4 feet x 4 feet each and six, 6 feet x 6 feet 6 inches each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Pravara Right Bank Canal (contour, ridge at tail); 33 miles long; perennial; unlined; authorised capacity **152 cusecs**

Pravara Left Bank Canal (contour, ridge at tail); 48 miles long; perennial; unlined; authorised capacity **530 cusecs**

(as during 1951-52 to 1960-61)

(No change)

(as now proposed)

(No change)

7. The year from which the scheme is in operation 1926

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Ahmednagar

	Pravara Right Bank Canal	*Paravara Left Bank Canal*	*Total*
	.................*thousand acres*.........................		
	(as during 1941-42 to 1950-51)		
G.C.A.	73.8	125.0	**198.8**
C.C.A.	58.4	99.0	**157.4**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation (*See Annexure 1*)

	Area irrigated annually			*Intensity of irrigation*					
	Maximum	*Minimum*	*Average*	*Perennial*	*Two seasonal*	*Kharif*	*Rabi*	*Hot-weather*	*Total*
	......*thousand acres*....			..............*percentage*....................					
	(*as during 1941-42 to 1950-51*)								
Pravara Right Bank Canal	20.6	11.2	16.5	6.9	2.3	5.8	12.4	0.9	**28.3**
Pravara Left Bank Canal	51.2	32.0	41.5	16.4	3.5	7.3	12.9	1.8	**41.9**
	(*as during 1951-52 to 1960-61*)								
Pravara Right Bank Canal	17.6	12.3	15.4	8.3	2.5	4.3	10.7	0.5	**26.3**
Pravara Left Bank Canal	43.3	31.4	38.0	18.1	2.5	3.6	13.7	0.4	**38.3**
	(*as now proposed*)								
	No change								

10. Normal rainfall and river supply diverted

(i) Pravara Right Bank Canal

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As pro-posed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As pro-posed*
	Normal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Average*	*Maxi-mum*	*Mini-mum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*......			........*thousand million cubic feet (T. M. C.)*..........									
June	0.5	3.5	0.1	0.26	0.17	0.25	0.28	0.24	0.24		0.63	0.61	
July	0.4	6.2	0.1	0.33	0.11	0.25	0.14	0.17	0.30		0.61	0.74	
August	3.0	7.1	0.5	0.47	0.09	0.28	0.33	0.24	0.34		0.69	0.84	
September	6.0	9.8	0.3	0.08	0.21	0.21	0.40	0.10	0.24	No change	0·53	0.61	No change
October	2.4	7.5	Nil	0.17	0.24	0.28	0.26	0.13	0.23		0.69	0.57	
November	1.0	3.5	,,	0.30	0.12	0.30	0.38	0.20	0.32		0.76	0.81	
December	0.4	3.0	,,	0.32	0.20	0.32	0.41	0.23	0.30		0.79	0.74	
January	0.2	1.6	,,	0.39	0.28	0.29	0.41	0.25	0.29		0.71	0.71	
February	0.1	0.8	,,	1.00	0.24	0.32	0.29	0.25	0.24		0.87	0.65	
March	0.1	1.4	,,	0.32	0.28	0.27	0.32	0.33	0.27		0.66	0.66	
April	0.2	1.1	,,	0.36	0.30	0.30	0.31	0.38	0.28		0.76	0.71	
May	0.8	2.1	,,	0.32	0.31	0.32	0.34	0.40	0.32		0.79	0.79	
Total	**15.1**			**4.32**	**2.55**	**3.40**	**3.87**	**2.92**	**3.38**				

10. Normal rainfall and river supply diverted

(ii) Pravara Left Bank Canal

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1952-52 to 1960-61*			*As pro-posed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As pro-posed*
	Normal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Average*	*Maxi-mum*	*Mini-mum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	..........*inches*........			..........*thousand million cubic feet (T. M. C.)*........									
June	0.5	3.5	0.1	1.23	0.57	0.94	0.87	1.06	0.92	No change	0.68	0.67	No change
July	0.4	6.2	0.1	1.27	0.65	0.94	1.31	0.80	1.05		0.66	0.74	
August	3.4	7.2	0.5	0.63	0.71	0.98	0.74	0.81	0.97		0.69	0.68	
September	6.0	9.8	0.3	0.89	0.57	0.74	0.81	0.50	0.88		0.54	0.64	
October	2.4	7.5	Nil	1.03	1.00	1.05	0.63	0.70	0.97		0.74	0.68	
November	1.0	3.5	,,	1.40	0.44	1.09	1.10	0.93	1.22		0.79	0.89	
December	0.4	3.0	,,	1.24	0.93	1.09	1.26	1.06	1.24		0.77	0.87	
January	0.2	1.6	,,	0.91	1.15	1.02	1.29	1.11	1.05		0.72	0.74	
February	0.1	0.8	,,	0.08	0.88	0.73	1.00	0.94	0.88		0.57	0.69	
March	0.1	1.4	,,	1.13	1.22	0.98	1.38	0.27	1.00		0.69	0.70	
April	0.3	1.2	,,	1.32	1.00	1.10	1.42	1.26	1.09		0.80	0.79	
May	0.7	2.1	,,	1.38	1.29	1.19	1.41	1.41	1.13		0.84	0.80	
Total	**15.5**			**12.51**	**10.41**	**11.86**	**13.22**	**11.85**	**12.40**				
Total of both Canals				**16.83**	**12.96**	**15.26**	**17.09**	**14.77**	**15.78**				

11. Not available

12. (a) Characteristics of soils in the commanded area

Soils may be classified approximately as follow :

	Pravara Right Bank Canal (Percentage)	Pravara Left Bank Canal (Percentage)
Sandy to sandy loam	18	31
Silty loam to clayey loam	25	32
Clayey loam to clay	57	37

A soil depth of more than 18 inches is available in 70 percent of the command and between 9 inches to 18 inches in the rest of the area

(b) Has there been any change in the soil characteristics since the introduction of irrigation ? Nil

13. (a) Crop pattern (*See Annexure I*)

Perennial			*Two seasonal*			*Kharif*				*Rabi*				*Hot weather*		*Total cropped area (T. acres)*
Percentage of principal crops		*Total area (T. acres)*	*Percentage of principal crops*		*Total area (T. acres)*	*Percentage of principal crops*			*Total area (T acres)*	*Percentage of principal crops*			*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Sugarcane	*Others*		*Cotton*	*Others*		*Paddy*	*Bajri*	*Others*		*Jowar*	*Wheat*	*Others*		*Others*		
Pravara Right Bank Canal																
(average for 1941-42 to 1950-51)																
13.1	11.4	**4.0**	0.6	7.6	**1.4**	1.9	12.6	5.8	**3.4**	31.8	10.9	1.0	**7.2**	3.3	**0.5**	**16.5**
(average for 1951-52 to 1960-61)																
20.3	11.4	**4.9**	4.6	5.0	**1.5**	2.9	5.9	7.4	**2.5**	31.5	7.3	1.7	**6.2**	2.0	**0.3**	**15.4**
(as now proposed)																
No change																
Pravara Left Bank Canal																
(average for 1941-42 to 1950-51)																
34.9	4.2	**16.2**	0.2	8.2	**3.5**	1.1	12.5	3.8	**7.2**	23.5	6.2	1.0	**12.8**	4.4	**1.8**	**41.5**
(average for 1951-52 to 1960-61)																
43.2	4.0	**17.9**	1.6	4.9	**2.5**	0.8	5.3	3.3	**3.6**	28.7	5.6	1.5	**13.6**	1.1	**0.4**	**38.0**
(as now proposed)																
No change																

(b) Are there any rules for regulating crop pattern ?

No, but crop pattern is regulated by contract provisions

14. Delta at canal head

	Delta (feet)					
	Kharif		*Rabi*		*Hot weather*	
	Sugarcane	*Others*	*Sugarcane*	*Others*	*Sugarcane*	*Others*
	(average for 1941-42 to 1950-51)					
Pravara Right Bank Canal						
As worked out by the State on cane basis	3.4	1.1	3.8	1.3	5.7	2.9
Overall on mixed crops				4.7		
	(average for 1951-52 to 1960-61)					
As worked out by the State on cane basis			Not available			
Overall on mixed crops			5.1			
	(as now proposed)					
	No change					

	Delta (feet)					
	Kharif		*Rabi*		*Hot weather*	
	Sugarcane	*Others*	*Sugarcane*	*Others*	*Sugarcane*	*Others*
	(average for 1941-42 to 1950-51)					
Pravara Left Bank Canal						
As worked out by the State on cane basis	4.0	1.3	4.3	1.4	5.5	2.7
Overall on mixed crops			6.6			
	(average for 1951-52 to 1960-61)					
As worked out by the State on cane basis			Not available			
Overall on mixed crops			7.5			
	(as now proposed)					
	No change					

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

For year 1959-60

	Pravara Right Bank Canal	*Pravara Left Bank Canal*
Number of wells	620	2,256
Area irrigated		
(i) Sugaracne	2,600 acres	6,470 acres
(ii) Other perennial	90 ,,	280 ,,
Total area irrigated	2,690 ,,	6,750 ,,

included in the C.C.A. but not in area irrigated

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

During 17 years, average escapage was 3.6 T.M.C. maximum 8.2 T.M.C. for 2 years and minimum 0.1 T.M.C.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, required for these aspects; financial returns

Nil

21. Financial return of the scheme

16.49 percent in 1955-56

22. Main features and purpose of the scheme

Irrigation of about 58,000 acres with high proportion of sugarcane

PRAVARA CANALS

STATEMENT SHOWING AREA IRRIGATED BY CROPS

ANNEXURE 1

PRAVARA LEFT

STATEMENT SHOWING AREA

Year	*Area irrigated by crops (acres)*									
	Perennial			*Two seasonal*			*Kharif*			
	Sugar-cane	*Others*	*Total*	*Cotton*	*Others*	*Total*	*Paddy*	*Bajri*	*Others*	*Total*
1941-42	18,151	1,767	**19,918**	318	1,354	**1,672**	17	1,237	1,781	**3,035**
42-43	12,364	1,808	**14,172**	115	2,233	**2,348**	—	7,687	2,025	**9,712**
43-44	13,887	1,778	**15,665**	123	3,582	**3,705**	45	6,376	930	**7,351**
44-45	14,596	1,656	**16,252**	—	3,457	**3,457**	321	4,095	268	**4,684**
45-46	13,672	1,526	**15,198**	—	2,835	**2,835**	996	5,781	919	**7,696**
46-47	15,009	1,656	**16,665**	—	1,950	**1,950**	687	6,583	377	**7,647**
47-48	14,421	1,600	**16,021**	—	3,703	**3,703**	632	5,388	1,474	**7,494**
48-49	14,502	1,645	**16,147**	—	4,093	**4,093**	220	5,038	2,553	**7,811**
49-50	13,874	1,863	**15,737**	4	6,210	**6,214**	743	5,270	4,084	**10,097**
50-51	14,278	2,251	**16,529**	268	4,805	**5,073**	854	4,298	1,220	**6,372**
1951-52	14,033	1,706	**15,739**	905	3,514	**4,419**	309	3,643	1,529	**5,481**
52-53	13,911	1,694	**15,605**	519	3,453	**3,972**	694	2,153	1,278	**4,125**
53-54	7,021	1,709	**8,730**	268	3,218	**3,486**	556	3,054	1,951	**5,561**
54-55	14,127	1,598	**15,725**	547	2,717	**3,264**	393	3,233	2,046	**5,672**
55-56	14,165	1,569	**15,734**	535	9	**544**	160	3,065	339	**3,564**
56-57	17,360	1,581	**18,941**	521	1,523	**2,044**	114	1,607	950	**2,671**
57-58	21,262	1,514	**22,776**	1,346	1,331	**2,677**	197	773	1,185	**2,155**
58-59	20,590	1,262	**21,825**	362	1,805	**2,167**	316	1,125	926	**2,367**
59-60	20,539	1,213	**21,725**	283	918	**1,201**	147	702	818	**1,667**
60-61	20,768	1,223	**21,991**	819	—	**819**	173	924	1,335	**2,432**
Average for the 10 years from 1941-42 to 1950-51	**14,475**	**1,755**	**16,230**	**83**	**3,422**	**3,505**	**452**	**5,175**	**1,563**	**7,190**
Average for the 10 years from 1951-52 to 1960-61	**16,378**	**1,507**	**17,885**	**610**	**1,849**	**2,459**	**306**	**2,028**	**1,236**	**3,570**

BANK CANAL *Annexure I*

IRRIGATED BY CROPS

Area irrigated by crops (acres)

Rabi				*Hot weather*	*Grand Total*
Jowar	*Wheat*	*Others*	*Total*		
5,132	915	1,014	**7,061**	358	**32,044**
7,566	3,821	1,581	**12,968**	89	**39,289**
6,190	2,627	—	**8,817**	357	**35,895**
6,843	2,076	—	**8,919**	851	**34,163**
13,526	3,021	—	**16,547**	1,817	**44,093**
11,581	2,780	—	**14,361**	5,522	**46,145**
9,453	3,096	—	**12,549**	3,303	**43,070**
8,697	2,757	1,591	**13,045**	2,636	**43,732**
14,792	2,469	—	**17,261**	1,886	**51,195**
13,895	2,072	—	**15,967**	1,525	**45,466**
14,137	2,908	—	**17,045**	576	**43,260**
13,780	2,894	4	**16,678**	1,137	**41,517**
14,233	2,437	34	**16,704**	734	**35,215**
13,468	2,728	—	**16,196**	345	**41,202**
10,020	1,655	221	**11,896**	238	**31,976**
5,975	1,628	—	**7,603**	158	**31,417**
11,353	1,798	—	**13,151**	470	**41,229**
11,432	1,817	—	**13,249**	302	**39,937**
6,876	1,534	—	**8,410**	317	**33,347**
7,837	1,793	5,562	**15,192**	—	**40,434**
9,768	**2,563**	**419**	**12,750**	**1,834**	**41,509**
10,911	**2,119**	**582**	**13,612**	**1,428**	**37,953**

PRAVARA RIGHT

STATEMENT SHOWING AREA

Year	*Area irrigated by crops (acres)*									
	Perennial			*Two seasonal*			*Kharif*			
	Sugar-cane	*Others*	*Total*	*Cotton*	*Others*	*Total*	*Paddy*	*Bajri*	*Others*	*Total*
1941-42	2,153	1,916	**4,369**	422	764	**1,186**	—	—	1,368	**1,368**
42-43	1,860	1,462	**3,322**	73	1,259	**1,332**	63	2,636	1,374	**4,073**
43-44	1,937	1,930	**3,867**	163	1,777	**1,940**	32	2,740	1,019	**3,791**
44-45	2,117	1,717	**3,834**	2	1,175	**1,177**	220	1,388	267	**1,875**
45-46	2,205	1,693	**3,898**	—	932	**932**	243	2,584	254	**3,081**
46-47	2,257	1,711	**3,968**	—	1,172	**1,172**	271	3,221	167	**3,659**
47-48	2,292	2,017	**4,309**	—	1,392	**1.392**	292	2,016	786	**3,094**
48-49	2,131	2,077	**4,208**	—	932	**932**	100	2,248	1,138	**3,486**
49-50	2,342	2,122	**4,464**	12	1,494	**1,506**	724	2,080	2,134	**4,938**
50-51	2,304	2,137	**4,441**	287	1,638	**1,925**	1,250	2,050	1,112	**4,412**
1951-52	2,424	2,029	**4,453**	756	1,270	**2,026**	669	1,353	1,019	**3,041**
52-53	2,342	1,975	**4,317**	505	1,163	**1,668**	796	1,904	1,577	**3,467**
53-54	1,251	1,854	**3,105**	563	1,167	**1,730**	848	1,664	1,534	**4,046**
54-55	2,329	1,752	**4,081**	545	1,157	**1,702**	961	980	1,865	**3,806**
55-56	2,420	1,754	**4,174**	707	511	**1,218**	85	1,203	1,006	**22,94**
56-57	3,228	1,771	**4,999**	797	552	**1,349**	259	577	912	**1,758**
57-58	4,701	1,737	**6,438**	1,249	720	**1,969**	284	562	814	**1,660**
58-59	4,631	1,705	**6,336**	336	617	**953**	203	536	745	**1,484**
59-60	3,992	1,658	**5,650**	571	561	**1,132**	286	574	724	**1,584**
60-61	3,763	1,319	**5,082**	1,105	—	**1,105**	127	566	1,069	**1,762**
Average for the 10 years from 1941-42 to 1950-51	**2,160**	**1,878**	**4,038**	**96**	**1,253**	**1,349**	**320**	**2,096**	**962**	**3,378**
Average for the 10 years from 1951-52 to 1960-61	**3,108**	**1,755**	**4,863**	**713**	**772**	**1,485**	**452**	**911**	**1,126**	**2,489**

BANK CANAL *Annexure I*

IRRIGATED BY CROPS

Area irrigated by crops (acres)					
Rabi				*Hot weather*	*Grand Total*
Jowar	*Wheat*	*Others*	*Total*	*Seasonal*	
3,135	717	400	**4,252**	301	**11,176**
4,619	2,257	620	**7,496**	614	**16,837**
3,447	2,450	—	**5,897**	273	**15,768**
2,610	1,260	—	**3,870**	522	**11,278**
8,307	1,671	—	**9,978**	842	**18,731**
7,248	1,797	—	**9,045**	525	**18,369**
4,543	2,185	—	**6,728**	749	**16,272**
4,837	1,785	580	**7,202**	209	**16,037**
7,025	2,114	—	**9,139**	599	**20,646**
6,848	1,831	—	**8,679**	808	**20,265**
6,496	1,230	—	**7,726**	311	**17,557**
6,245	1,225	—	**7,470**	702	**17,624**
6,283	1,395	17	**7,695**	513	**17,089**
5,918	1,398	—	**7,316**	187	**17,092**
3,815	765	—	**4,580**	186	**12,452**
2,880	1,069	—	**3,949**	244	**12,289**
4,332	1,383	—	**5,715**	309	**16,091**
4,875	1,053	—	**5,928**	184	**14,885**
3,058	852	—	**3,910**	477	**12,753**
4,493	762	2,550	**7,805**	—	**15,754**
5,262	**1,807**	**160**	**7,229**	**544**	**16,538**
4,840	**1,113**	**257**	**6,210**	**311**	**15,358**

KHAIRBANDA TANK

19A-G.9-M.4

1. **Name of State** Maharashtra (formerly in Madhya Pardesh)

2. **Scope of the scheme or system**

   Irrigation scheme; C.C.A. 27,840 acres

3. **Source of supply**

   Local nalla at Khairbanda/Wainganga/Pranhita/**Godavari**

   Utilisation upstream : nil

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	0.60 T.M.C.
Dead storage	Negligible
Carry-over	0.20 T.M.C.
Annual reservoir losses	0.07 ,,
Filling period	15th June to end of September
Depletion period	15th June to 15th October
Catchment area	16.52 square miles
Area submerged	998 acres
Full reservoir level	153 (arbitrary datum)
Minimum pond level	128 (arbitrary datum)

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam :	earthen, 7,035 feet long, 60 feet high
Spillway :	300 feet long, capacity 12,290 cusecs
Outlets :	particulars not available

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canal

(as during 1941-42 to 1950-51)

Khairbanda Right Bank Canal (contour); 6.5 miles long; *Kharif* only; unlined; authorised capacity 63 cusecs

Khairbanda Left Bank Canal (ridge); 14.4 miles long; *Kharif* only; unlined; authorised capacity 83 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1906-07

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Bhandara

(as during 1941-42 to 1950-51)

G.C.A.	30,800 acres
C.C.A.	27,800 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*
Maximum	*Minimum*	*Average*	*Kharif*
........*thousand acres*..........			......*percentage*......
(as during 1941-42 to 1950-51)			
10.2	6.8	9.4	33.8
(as during 1951-52 to 1960-61)			
11.1	2.3	9.7	34.9
(as now proposed)			
No change			

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				*As during 1941-42 to 1950-51**			*As during 1951-52 to 1960-61§*			*As proposed*	*As during 1941-42 to 1950-51**	*As during 1951-52 to 1960-61§*	*As proposed*
	Normal	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........*inches*........			..............*thousand million cubic feet (T. M. C.)*......									
June	9.0	19.1	0.8	Nil	Nil	Nil	Nil	Nil	Nil	No change	—	—	No change
July	15.6	34.0	8.5	0.17	0.02	0.04	,,	,,	0.01		0.10	0.03	
August	17.0	37.5	4.4	0.17	0.02	0.04	,,	,,	0.01		0.10	0.03	
September	7.0	20.1	2.7	0.23	0.05	0.10	0.10	,,	0.13		0.26	0.34	
October	1.7	12.2	Nil	0.18	0.11	0.15	0.42	,,	0.23		0.38	0.59	
November	0.3	6.4	,,	0.01	Nil	Nil	0.07	,,	0.02		—	0.05	
December	0.3	0.9	,,	Nil	,,	,,	Nil	,,	Nil		—	—	
January	0.3	5.0	,,	,,	,,	,,	,,	,,	,,		—	—	
February	1.2	4.5	,,	,,	,,	,,	,,	,,	,,		—	—	
March	0.4	3.2	,,	,,	,,	,,	,,	,,	,,		—	—	
April	0.4	5.8	,,	,,	,,	,,	,,	,,	,,		—	—	
May	0.4	2.7	,,	,,	,,	,,	,,	,,	,,		—	—	
Total	**53.6**			**0.76**	**0.20**	**0.33**	**0.59**	Nil	**0.40**				

*Omiting the years 1945-46 to 1948-49

§Omiting the years 1951-52 and 1958-59

11.—12. Not available

13. (a) Crop pattern

Kharif	
Percentage of principal crops	*Total cropped area (T. acres)*
Paddy	
(*average for 1941-42 to 1950-51*)	
100.0	9.4
(*average for 1951-52 to 1960-61*)	
100.0	9.7
(*as now proposed*)	
No change	

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Delta (feet)
Kharif
(*average for 1941-42 to 1950-51*)
0.8
(*average for 1951-52 to 1960-61*)
0.9
(*as now proposed*)
No change

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Two *malguzari* tanks in operation, area irrigated:

1.	Boda	280 acres
2.	Sejgoan	262 acres

area included in the C.C.A.

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Approximately 197 wells in the command, used for drinking water supply

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

There was escapage of river supply for 7 years out of 16 years, maximum was 1.1 T.M.C. and minimum 0.07 T. M. C.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Not available

22. Main features and purpose of the scheme

Irrigation of about 10,000 acres

CHANDPUR TANK

20A-G.9-M. 5

1. **Name of State** Maharashtra (formerly in Madhya Pradesh)
2. **Scope of the scheme or system**

   Irrigation scheme ; flow-cum-storage ; C. C. A. 28,670 acres
3. **Source of supply**

   Lamandohi Nalla at Chandpur/Wainganga/Pranhita/**Godavari**

   Utilisation upstream :

   existing : nil
4. **Description of the dam and reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	1.20 T. M. C.
Dead storage	Negligible
Carry-over	0.50 T. M. C.
Annual reservoir losses	0.10 ,,
Filling period	15th June to end of September
Depletion period	1st June to 15th October
Catchment area	28 square miles
Area submerged	1,728 acres
Full reservoir level	R. L. 248 (arbitrary datum)
Minimum pond level	R. L. 213 (arbitrary datum)

Dam : earthen, 2,181 feet long, 62.3 feet high

Spillway : masonry, 323 feet long, capacity 8,500 cusecs

Outlets : three 30 inches diameter each, total capacity 200 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Diversion bund : earthen, 2,181 feet long ; with waste weir 70 feet long

Canal regulators : two, for passing 117 cusecs and 83 cusecs respectively

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Chandpur Right Bank Canal (contour) ; 12.4 miles long ; *Kharif* only ; unlined ; authorised discharge **117 cusecs**

Chandpur Left Bank Canal (ridge) ; 6.8 miles long ; *Kharif* only ; unlined ; authorised discharge **83 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1907-08

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Bhandara

(as during 1941-42 to 1950-51)

G. C. A.	36,900 acres
C. C. A.	28,700 acres

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation*
Maximum	*Minimum*	*Average*	*Kharif*
............*thousand acres*..........			........*percentage*........
(as during 1941-42 to 1950-51)			
11.6	8.9	10.2	35.5
(as during 1951-52 to 1960-61)			
13.9	11.6	12.1	42.2
(as now proposed)			
No change			

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51			As during 1951-52 to 1960-61			As pro-posed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches........			..............thousand million cubic feet (T. M. C.)......									
June	8.7	20.1	2.6	Nil	Nil	Nil	Nil	Nil	Nil		—	—	
July	15.3	32.5	5.4	0.02	0.05	0.03	,,	,,	0.01	No change	0.06	0.02	No change
August	15.5	23.6	7.0	0.09	0.03	0.08	0.30	0.12	0.05		0.15	0.09	
September	7.5	16.7	1.9	0.18	0.08	0.15	0.36	Nil	0.12		0.29	0.23	
October	1.7	11.4	Nil	0.42	0.18	0.32	0.28	,,	0.27		0.60	0.50	
November	0.5	4.0	,,	0.05	Nil	0.02	0.02	0.02	0.01		0.04	0.02	
December	0.3	1.4	,,	Nil	,,	Nil	Nil	Nil	Nil		—	—	
January	0.8	3.9	,,	0.01	0.01	,,	,,	,,	,,		—	—	
February	0.8	8.0	,,	Nil	Nil	,,	,,	,,	,,		—	—	
March	0.4	4.0	,,	,,	,,	,,	,,	,,	,,		—	—	
April	0.3	8.3	,,	,,	,,	,,	,,	,,	,,		—	—	
May	0.6	4.2	,,	,,	,,	,,	,,	,,	,,		—	—	
Total	**56.4**			**0.77**	**0.35**	**0.60**	**0.96**	**0.14**	**0.46**				

11.-12. Not available

13. (a) Crop pattern (*See Annexure I*)

Kharif	
Percentage of principal crops	*Total cropped area (T. acres)*
(*average for 1941-42 to 1950-51*)	
100.0	10.2
(*average for 1951-52 to 1960-61*)	
100.0	12.1
(*as now proposed*)	
No change	

(**b**) **Are there any rules for regulating crop pattern** ? No

15. Delta at canal head

Delta (*feet*)
Kharif
(*average for 1941-42 to 1950-51*)
1.4
(*average for 1951-52 to 1960-61*)
0.9
(*as now proposed*)
No change

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(**b**) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

150 wells ; used for drinking water supply

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

Escapage was for five years out of 20, maximum being 2.5 T. M. C. and minimum 0.2 T. M. C.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Not available

22. Main features and purpose of the scheme

Irrigation of 12,000 acres

CHANDPUR TANK

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*
	Kharif
	Paddy
1941-42	8,900
42-43	9,100
43-44	9,100
44-45	9,200
45-46	10,600
46-47	10,200
47-48	10,600
48-49	11,600
49-50	11,600
50-51	11,600
1951-52	11,600
52-53	11,600
53-54	11,600
54-55	11,600
55-56	11,600
56-57	11,600
57-58	11,600
58-59	13,200
59-60	13,000
60-61	13,900
Average for the 10 years from 1941-42 to 1950-51	**10,250**
Average for the 10 years from 1951-52 to 1960-61	**12,130**

BODALKASA TANK 21A-G.9-M.6.

1. Name of State Maharashtra (fomerly in Madhya Pardesh)

2. Scope of the scheme or system

Irrigation scheme; flow-cum-storage; C.C.A. 24,300 acres

3. Source of supply

Baghdeo Nalla at Badalkasa/Wainganga/Pranhita/Godavari
Utilisation upstream :
existing : nil

4. Description of the reservoir or tank

(as during 1941-42 to 1950-51)

Live storage	0.70 T.M.C.
Dead storage	Negligible
Carry-over	0.30 T.M.C.
Annual reservoir losses	0.10 ,,
Filling period	15th June to end of September
Depletion period	15th June to 15th October
Catchment area	23.5 square miles
Area submerged	1,408 acres
Full reservoir level	R.L. 1,001
Minimum pond level	R.L. 981

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. Description of the headworks

(as during 1941-42 to 1950-51)

Dam :	earthen, 1,700 feet long, 63 feet high
Spillway :	310 feet long, capacity 6,779 cusecs
Outlets :	two sluices, 2 feet x 4 feet each and two sluice, 2½ feet x 2¼ feet each

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. **Description of the canals**

(as during 1941-42 to 1950-51)

Bodalkasa Right Bank Canal (contour); 21.4 miles long; *Kharif* only ; unlined ; authorised capacity **160 cusecs**

Bodalkasa Left Bank Canal (contour) ; 7.9 miles long ; *Kharif* only ; unlined ; authorised capacity **43 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. **The year from which the scheme is in operation** 1916-17

IRRIGATION ASPECTS

8. **Gross commanded area and culturable commanded area, district-wise**

District Bhandara

(as during 1941-42 to 1950-51)

G.C.A.	36,200 acres
C.C.A.	24,300 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. **Area irrigated annually and intensity of irrigation** *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation*
Maximum	*Minimun*	*Average*	*Kharif*
..........*thousand acres*........			......*percentage*....
(as during 1941-42 to 1950-51)			
10.8	8.8	10.0	41.2
(as during 1951-52 to 1960-61)			
13.0	11.3	11.8	48.6

(as now proposed)

No change

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51*			As during 1951-52 to 1960-61**			As pro-posed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches........			.............thousand million cubic feet (T. M. C.)......									
June	9.6	19.1	0.8	Nil	Nil	Nil	0.01	Nil	Nil	No change	—	—	No change
July	15.5	34.1	8.5	,,	0.04	0.02	Nil	,,	,,		0.04	—	
August	14.0	37.5	4.4	0.17	0.06	0.09	0.40	,,	0.06		0.17	0.11	
September	6.5	20.1	2.7	0.24	0.02	0.08	0.29	0.03	0.12		0.15	0.23	
October	1.8	12.2	Nil	0.09	0.09	0.15	0.29	Nil	0.21		0.28	0.39	
November	0.3	6.4	,,	Nil	Nil	Nil	0.01	,,	0.02		—	0.04	
December	0.3	0.9	,,	,,	,,	,,	Nil	,,	Nil		—	—	
January	0.5	5.0	,,	,,	,,	,,	,,	,,	,,		—	—	
February	1.0	4.5	,,	,,	,,	,,	,,	,,	,,		—	—	
March	0.7	3.2	,,	,,	,,	,,	,,	,,	,,		—	—	
April	0.3	5.8	,,	,,	,,	,,	,,	,,	,,		—	—	
May	0.6	2.7	,,	,,	,,	,,	,,	,,	,,		—	—	
Total	**51.1**			**0.50**	**0.21**	**0.34**	**1.00**	**0.03**	**0.41**				

*Omittng the years 1944-45 to 1948-49

**Omitting the year 1951-52

11.-12. Not available

13. (a) Crop pattern (*See Annexure 1*)

Kharif	
Percentage of principal crops	*Total cropped area (T. acres)*
Paddy	
(*average for 1941-42 to 1950-51*)	
100·0	10.0
(*average for 1951-52 to 1960-61*)	
100·0	11.8
(*as now proposed*)	
No change	

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Delta (*feet*)
Kharif
(*average for 1941-42 to 1950-51**)
0.8
(*average for 1951-52 to 1960-61§*)
0·8
(*as now proposed*)
No change

**omitting the years 1944-45 to 1948-49*

§*omitting the year 1951-52*

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Kawlewada tank irrigating 253 acres included in the C. C. A.

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**
233 wells, used for drinking water supply

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951
There was escapage in 7 years out of 16, Maximum was 2.1 T. M. C. and minimum 0.04 T. M. C.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects : financial returns
Nil

21. Not available

22. Main features and purpose of the scheme
Irrigation of about 12,000 acres

Annexure I

BODALKASA TANK

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*
	Kharif
	Paddy
1941-42	8,800
42-43	9,900
43-44	10,000
44-45	10,000
45-46	10,800
46-47	10,700
47-48	Not available
48-49	,,
49-50	,,
50-51	,,
1951-52	11,300
52-53	11,300
53-54	11,300
54-55	11,400
55-56	11,400
56-57	11,400
57-58	11,900
58-59	13,000
59-60	12,100
60-61	12,800
Average for the 6 years from 1941-42 to 1946-47	**10,033**
Average for the 10 years from 1951-52 to 1960-61	**11,790**

CHORKHAMARA TANK

22 A-G.9-M. 7

1. **Name of State** Maharashtra (formerly in Madhya Pradesh)

2. **Scope of the scheme or system**

   Irrigation scheme ; flow-cum-storage ; C. C. A. 32,700 acres

3. **Source of supply**

   Kondegoni river at Chorkhamara/Wainganga/Pranhita/Godavari
   Utilisation upstream :
   existing : nil

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	0.80 T. M. C.
Dead storage	Negligible
Carry-over	0.30 T. M. C.
Annual reservoir losses	0.08 ,,
Filling period	15th June to end of September
Depletion period	1st June to 15th October
Catchment area	29.0 square miles
Area submerged	1,242 acres
Full reservoir level	R. L. 991
Minimum pond level	R. L. 958

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthen, 5,178 feet long, 61 feet high
Spillway : 510 feet long, capacity 9,358 cusecs
Outlets : one sluice, 4 feet × 5 feet on each bank

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canals

(as during 1941-42 to 1950-51)

Chorkhamara Right Bank Canal (contour) ; 7.4 miles long ; Kharif only ; unlined ; authorised capacity **31 cusecs**

Chorkhamara Left Bank Canal (contour) ; 10.0 miles long ; Kharif only ; unlined ; authorised capacity **138 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1918

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Bhandara

(as during 1941-42 to 1950-51)

G. C. A.	43,300 acres
C. C. A.	32,700 acres

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation *(See Annexure I)*

Area irrigated annually			*Intensity of irrigation*
Maximum	*Minimum*	*Average*	*Kharif*
..........*thousand acres*............			............*percentage* ....
(as during 1941-42 to 1950-51)			
12.2	9.4	10.9	33.3
(as during 1951-52 to 1960-61)			
12.6	1.5	10.8	33.0
(as now proposed)			
No change			

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during 1941-42 to 1950-51*			As during 1951-52 to 1960-61			As pro-posed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........inches........			..........thousand million cubic feet (T.M.C.)........									
June	9.6	15.7	0.8	Nil	Nil	Nil	Nil	Nil	Nil		—	—	
July	15.5	40.3	8.9	,,	0.03	0.03	,,	,,	,,		0.07	—	
August	14.4	28.6	7.8	0.26	0.03	0.14	0.31	,,	0.07		0.31	0.15	
September	7.0	19.5	2.2	0.02	0.03	0.09	0.38	,,	0.11	No change	0.21	0.25	No change
October	1.7	12.0	Nil	0.25	0.13	0.15	0.28	,,	0.21		0.33	0.46	
November	0.3	2.2	,,	Nil	Nil	Nil	Nil	,,	0.01		—	0.02	
December	0.2	1.0	,,	,,	,,	,,	,,	,,	—		—	—	
January	0.5	3.9	,,	,,	,,	,,	,,	,,	—		—	—	
February	1.0	5.6	,,	,,	,,	,,	,,	,,	—		—	—	
March	0.7	6.2	,,	,,	,,	,,	,,	,,	—		—	—	
April	0.3	5.9	,,	,,	,,	,,	,,	,,	—		—	—	
May	0.6	9.4	,,	,,	,,	,,	0.02	,,	—		—	—	
Total	**51.8**			**0.53**	**0.22**	**0.41**	**0.99**	**Nil**	**0.40**				

Omitting the years 1944-45 to 1948-49

11.—12. Not available

13. **(a)** **Crop pattern** (*See Annexure 1*)

Kharif	
Percentage of principal crops	*Total cropped area (T. acres)*
Paddy	
(average for 1941-42 to 1950-51)	
100.0	**10.9**
(average for 1951-52 to 1960-61)	
100.0	**10.8**
(as now proposed)	
No change	

(b) **Are there any rules for regulating crop patten ?** **No**

14. **Delta at canal head**

Delta (feet)
Kharif
(average for 1941-42 to 1950-51)
0.9
(average for 1951-52 to 1960-61)
0.9
(as now proposed)
No change

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Nil

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

279 wells, used for drinking water supply

16. Quantum of river supplies available in relation of withdrawals, as of March, 1951

There was escapage in 5 years out of 16, maximum was 1.4 T.M.C. and mini 0.01 T.M.C.

17. to 19. Not applicable

GENERAL

20. Aspects other than irrigation and power; water supply (month-wise), if any, require these aspects; financial returns

Nil

21. Not available

22. Main features and purpose of the scheme

Irrigation of 11,000 acres

Annexure 1

CHORKHAMARA TANK

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Areairrigated by crops (acres)*
	Kharif
	Paddy
1941-42	9,400
42-43	10,200
43-44	10,700
44-45	10,800
45-46	12,200
46-47	12,100
47-48	N. A.
48-49	,,
49-50	,,
50-51	,,
1951-52	12,100
52-53	12,100
53-54	11,200
54-55	12,100
55-56	11,100
56-57	11,100
57-58	12,600
58-59	1,500
59-60	12,400
60-61	12,100
Average for the 6 years from 1941-42 to 1946-47	**10,900**
Average for the 10 years from 1951-52 to 1960-61	**10,830**

RAMTEK TANK

23A-6.9-M- 8

1. **Name of State** Maharashtra (formerly in Madhya Pradesh)

2. **Scope of the scheme or system**
   Irrigation scheme; flow-cum-storage; C.C.A. 91,200 acres

3. **Source of supply**
   Sur river at Navargaon/Wainganga/Pranhita/Godavari
   Utilisation upstream : nil

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	4.10 T.M.C.
Dead storage	0.10 ,,
Carry-over	1.00 ,,
Annual reservoir losses	0.90 ,,
Filling period	15th June to end of September
Depletion period	15th June to 14th October
Catchment area	82 square miles
Area submerged	5,248 acres
Full reservoir level	R.L. 1,040
Minimum pond level	R.L. 997

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthen, 11, 352 feet long, 73 feet high
Spillway : 510 feet long, capacity 18,175 cusecs
Outlets : sluice, 8 feet x 8 feet

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canal

(as during 1941-42 to 1950-51)

Ramtek Canal (Ridge); right bank; 28 miles long; perennial; unlined; authorised capacity 333 causecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1909—10

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

Item	*Names of districts*		*Total*
	Bhandara	*Nagpur*	
	..................*thousand acres*..............................		
	(as during 1941-42 to 1950-51)		
G. C. A.	88.4	9.9	**98.3**
C. C. A.	82.1	9.1	**91.2**
	(as during 1951-52 to 1960-61)		
	No change		
	(as now proposed)		
	No change		

9. Area irrigated annually and intensity of irrigation *(See Annexure 1)*

Area irrigated annually			*Intensity of irrigation*			
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*	*Rabi*	*Total*
............*thousand acres*........			........*percentage*............			
(as during 1941-42 to 1950-51)						
15.9	10.9	13.3	0.3	13.5	0.8	**14.6**
(as during 1951-52 to 1960-61)						
22.9	14.8	17.3	0.4	17.2	1.4	**19.0**
(as now proposed)						
No change						

10. Normal rainfall and river supply diverted

Month	Rainfall			River supply diverted							Capacity factor		
				As during1941-42 to 1950-51			As during 1951-52 to 1960-61			As pro-posed	As during 1941-42 to 1950-51	As during 1951-52 to 1960-61	As pro-posed
	Normal	Maxi-mum	Mini-mum	Maxi-mum	Mini-mum	Average	Maxi-mum	Mini-mum	Average				
	......inches........			........thousand million cubic feet (T. M. C.)..........									
June	8.9	16.6	2.9	0.06	0.03	0.04	0.08	Nil	0.04		0.05	0.05	
July	15.0	28.9	7.8	0.16	Nil	0.07	0.05	,,	0.06		0.08	0.07	
August	13.0	24.8	3.3	0.24	0.12	0.13	0.09	,,	0.10		0.14	0.11	
September	8.4	14.6	2.2	0.41	0.09	0.22	0.56	,,	0.27	No change	0.25	0.31	
October	1.6	9.0	Nil	0.63	0.43	0.44	0.63	0.16	0.51		0.49	0.57	No change
November	0.5	4.8	,,	0.25	0.12	0.14	0.32	0.01	0.15		0.16	0.17	
December	0.4	0.7	,,	0.03	0.01	0.04	0.16	Nil	0.08		0.07	0.09	
January	0.6	6.4	,,	0.01	0.02	0.04	0.15	,,	0.06		0.04	0.07	
February	0.7	5.6	,,	0.01	0.03	0.03	0.09	,,	0.05		0.04	0.06	
March	0.6	4.1	,,	0.01	0.03	0.04	0.10	,,	0.05		0.04	0.06	
April	0.5	7.1	,,	Nil	0.04	0.05	0.09	,,	0.06		0.06	0.07	
May	0.6	2.6	..	,,	0.05	0.06	0.07	,,	0.07		0.06	0.08	
Total	**50.8**			**1.81**	**0.97**	**1.30**	**2.39**	**0.17**	**1.50**				

11.—12. Not available

13. (a) Crop pattern (*See Annexure I*)

Perennial		*Kharif*		*Rabi*		*Total cropped area (T. acres)*
Percentage of principal crops	*Total area (T. acres)*	*Percentage of Principal crops*	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
Sugarcane		*Paddy*		*Wheat*		
(*average for 1941-42 to 1950-51*)						
2.4	0.3	92.3	12.3	5.3	0.7	13.3
(*average for 1951-52 to 1960-61*)						
2.1	0.4	90.8	15.7	7.1	1.2	17.3
(*as now proposed*)						
No change						

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Overall Delta (feet)
(*average for 1941-42 to 1950-51*)
2.2
(*average for 1951-52 to 1960-61*)
2.0
(*as now proposed*)
No change

15. (a) **Number of tanks in operation in the irrigated area and the area irrigated therefrom**

Nil

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

108 wells, used for drinking water supply

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

There was escapage in 4 years out of 20 ; maximum was 3.6 T. M. C. and minimum was 1.3 T. M. C.

17. to 19 Not applicable

GENERAL

20. **Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns**

Nil

21. Not available

22. **Main features and purpose of the scheme**

Paddy cultivation (17,000 acres)

Annexure 1

RAMTEK TANK

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*					
	Perennial			*Kharif*	*Rabi*	*Grand Total*
	Sagarcane	*Others*	*Total*	*Paddy*	*Wheat*	
1941-42	300	—	300	10,200	400	10,900
42-43	200	—	200	10,300	2,100	12,600
43-44	200	—	200	10,300	600	11,100
44-45	300	—	300	10,300	400	11,000
45-46	200	—	200	12,400	800	13,400
46-47	300	—	300	13,000	300	13,600
47-48	400	200	600	12,700	400	13,700
48-49	400	—	400	14,600	200	15,200
49-50	400	—	400	14,600	900	15,900
50-51	300	—	300	14,600	900	15,800
1951-52	200	—	200	14,600	—	14,800
52-53	100	—	100	14,600	400	15,100
53-54	400	—	400	14,600	1,000	16,000
54-55	400	—	400	14,600	1,000	16,000
55-56	500	—	500	14,600	1,400	16,500
56-57	300	—	300	14,600	900	15,800
57-58	300	—	300	14,600	1,400	16,300
58-59	400	—	400	17,900	1,200	19,500
59-60	500	—	500	17,700	2,100	20,300
60-61	400	100	500	19,400	3,000	22,900
Average for the 10 years from 1941-42 to 1950-51	300	20	320	12,300	700	13,320
Average for the 10 years from 1951-52 to 1960-61	350	10	360	15,720	1,240	17,320

GHORAZARI TANK

24A-G. 9-M.9

1. **Name of State** Maharashtra (formerly in Madhya Pradesh)

2. **Scope of the scheme or system**

   Tank irrigation scheme ; C. C. A. 31,800 acres

3. **Source of supply**

   Bokardoh nalla at Ghorazari/Wainganga/Pranhita/**Godavari**

   Utilisation upstreom : nil

4. **Description of the reservior or tank**

(as during 1941-42 to 1950-51)

Live storage	1.34 T. M. C.
Dead storage	0.25 ,,
Carry-over	0.45 ,,
Annual reservoir losses	0.10 ,,
Filling period	15th June to 15th September
Depletion period	15th June to 15th October
Catchment area	35 square miles
Area submerged	2,400 acres
Full reservoir level	R. L. 816
Minimum pond level	R. L. 797

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthen, 3500 feet long 66 feet high

Spillway : 410 feet long, capacity 11,300 cusecs

Outlets : two, 4 feet x 4 feet each, capacity 300 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canal

(as during 1941-42 to 1950-51)

Ghorazari Right Bank Canal (contour) ; 12 miles long ; *Kharif* only ; partly lined ; capacity **300 cusecs**

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1909-10

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Chanda

(as during 1941-42 to 1950-51)

G. C. A.	48,400 acres
C. C. A.	31,800 ,,

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation

Area irrigated annually			*Intensity of irrigation*		
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*	*Total*
......*thousand acres*......			......*percentage*............		
(as during 1941-42 to 1950-51)					
9.2	7.6	8.4	0.5	25.9	**26.4**
(as during 1951-52 to 1960-61)					
10.9	9.1	9.8	—	30 8	**30.8**
(as now proposed)					
No change					

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As pro-posed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As pro-posed*
	Normal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Average*	*Maxi-mum*	*Mini-mum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	......*inches*........			..........................*T.M.C.*....................									
June	9.0	17.8	2.3	0.02	Nil	0.01	Nil	Nil	Nil	No change	0.01	—	No change
July	15.6	35.3	9.1	0.06	,,	0.04	0.11	,,	0.04		0.05	0.05	
August	12.5	29.6	6.1	0.34	,,	0.23	0.34	0.15	0.24		0.29	0.30	
September	7.8	13.9	1.1	0.37	0.17	0.24	0.45	0.15	0.31		0.31	0.40	
October	1.7	11.1	Nil	0.34	0.40	0.37	0.44	0.35	0.39		0.46	0.49	
November	0.6	3.1	,,	0.02	0.02	0.04	0.03	Nil	0.02		0.05	0.03	
December	0.5	2.0	,,	0.03	Nil	0.02	Nil	,,	Nil		0.02	—	
January	0.3	2.9	,,	0.03	0.01	0.01	,,	,,	,,		0.01	—	
February	0.8	6.4	,,	0.03	0.01	0.01	,,	,,	,,		0.01	—	
March	0.7	4.9	,,	0.04	0.02	0.02	,,	,,	,,		0.02	—	
April	0.8	4.6	,,	0.01	0.04	0.02	,,	,,	0.02		0.03	0.03	
May	0.6	4.0	,,	0.03	0.03	0.03	,,	,,	Nil		0.04	—	
Total	**50.9**			**1.32**	**0.70**	**1.05**	**1.37**	**0.65**	**1.02**				

11.—12. Not available

13. (a) Crop pattern

Perennial		*Kharif*		
Percentage of principal crops	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	*Total cropped area (T. acres)*
Sugarcane		*Paddy*		
		(average for 1941-42 to 1950-51)		
2.4	0.2	97.6	8.2	8.4
		(average for 1951-52 to 1960-61)		
—	—	100.0	9.8	9.8
		(as now proposed)		
		No change		

(b) Are there any rules for regulating crop pattern ? No

14. Delta at canal head

Overall Delta (feet)
(average for 1941-42 to 1950-51)
2.9
(average for 1951-52 to 1960-61)
2.4
(as now proposed)
No change

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

Seven *ex-malguzari* tanks, with irrigation potentials of over 250 acres, each

1.	Maugul*	299 acres
2.	Goraidpur	275 ,,
3.	Chargaon	281 ,,
4.	Walani	353 ,,
5.	Sawargaon	736 ,,
6.	Antargaon	386 ,,
7.	Antargaon	302 ,,

*The area is not included in the area shown as irrigated under this tank, but is included in the C. C. A.

(b) Number of wells in operation in the irrigated area and the area irrigated therefrom

Approximate number of wells 116 ; used for drinking purposes only

16. Quantum of river supplies available in relation to withdrawals, as of March, 1951

River supply data not available

The supplies available during June to September are generally adequate to meet irrigation requirements ; spill occurs during August and September but escapage is not dependable.

GENERAL

17. to 19. Not applicable

20. Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns

Nil

21. Not available

22. Main features and purpose of the scheme

Irrigation of about 10,000 acres of paddy

ASOLA-MENDHA TANK

25A-G. 9-M. 10

1. **Name of State** Maharashtra (formerly in Madhya Pradesh)

2. **Scope of the scheme or system**

   Irrigation scheme ; flow-cum-storage ; C. C. A. 93,700 acres

3. **Source of supply**

   Pathri Nadi near Pathri/Wainganga/Pranhita/Godavari
   Utilisation upstream :
   existing : irrigation of about 2,000 acres

4. **Description of the reservoir or tank**

(as during 1941-42 to 1950-51)

Live storage	2.60 T. M. C.
Dead storage	0.70 ,,
Carry-over	0.90 ,,
Annual reservoir losses	0.80 ,,
Filling period	15th June to end of September
Depletion period	15th October to 15th June
Catchment area	94.8 square miles
Area submerged	4,600 acres
Full reservoir level	R. L. 702
Minimum pond level	R. L. 683

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

5. **Description of the headworks**

(as during 1941-42 to 1950-51)

Dam : earthen, 8,080 feet long, 59 feet high
Spillway : masonry open weir, 750 feet long, capacity 22,121 cusecs
Outlet : masonry sluice with 4 square openings of 4 feet x 4 feet each, capacity 339 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

6. Description of the canal

(as during 1941-42 to 1950-51)

Asola-mendha Canal (ridge); left bank; 27.12 miles long; perennial; unlined : authorised capacity 339 cusecs

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

7. The year from which the scheme is in operation 1911-12

IRRIGATION ASPECTS

8. Gross commanded area and culturable commanded area, district-wise

District Chanda

(as during 1941-42 to 1950-51)

G. C. A.	122,500 acres
C. C. A.	93,700 acres

(as during 1951-52 to 1960-61)

No change

(as now proposed)

No change

9. Area irrigated annually and intensity of irrigation (*See Annexure 1*)

Area irrigated annually			*Intensity of irrigation*			
Maximum	*Minimum*	*Average*	*Perennial*	*Kharif*	*Rabi*	*Total*
..........*thousand acres*..........			............*percentage*..............			
(*as during 1941-42 to 1950-51*)						
19.2	15.4	17.1	0.4	17.6	0.2	**18.2**
(*as during 1951-52 to 1960-61*)						
23.7	16.8	18.1	—	19.0	0.3	**19.3**
(***as now proposed***)						
No change						

10. Normal rainfall and river supply diverted

Month	*Rainfall*			*River supply diverted*							*Capacity factor*		
				As during 1941-42 to 1950-51			*As during 1951-52 to 1960-61*			*As pro-posed*	*As during 1941-42 to 1950-51*	*As during 1951-52 to 1960-61*	*As pro-posed*
	Normal	*Maxi-mum*	*Mini-mum*	*Maxi-mum*	*Mini-mum*	*Average*	*Maxi-mum*	*Mini-mum*	*Average*				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	........*inches*........			............*thousand million cubic feet (T. M. C.)*....									
June	9.0	25.4	2.2	0.06	0.02	0.02	Nil	Nil	0.01		0.02	0.01	
July	16.5	34.2	8.1	0.27	0.05	0.08	0.13	0.19	0.12		0.09	0.13	
August	13.0	31.8	7.8	0.35	0.57	0.33	0.34	0.46	0.42		0.36	0.46	
September	7.5	16.0	1.1	0.63	0.30	0.39	0.37	0.11	0.39	No change	0.44	0.44	No change
October	1.7	13.5	Nil	0.74	0.22	0.64	0.85	0.30	0.60		0.70	0.66	
November	0.5	3.6	,,	0.28	0.07	0.15	0.17	0.08	0.12		0.17	0.14	
December	0.3	1.6	,,	0.05	0.02	0.04	0.04	Nil	0.03		0.04	0.03	
January	0.3	2.3	,,	0.08	0.01	0.04	0.04	,,	0.02		0.04	0.02	
February	0.7	3.3	,,	0.08	Nil	0.05	0.04	,,	0.02		0.06	0.02	
March	0.8	5.1	,,	0.08	0.01	0,06	0.05	,,	0.02		0.07	0.02	
April	0.7	3.1	,,	0.11	0.01	0.07	0.01	,,	0.02		0.08	0.02	
May	0.7	8.9	,,	0.06	0.01	0.06	0.02	,,	0.02		0.07	0.02	
Total	**51.7**			**2.79**	**1.29**	**1.93**	**3.06**	**1.14**	**1.79**				

**Omitting the year 1948-49*

11.-12. Not available

13. (a) Crop pattern (*See Annexure I*)

Perennial		*Kharif*		*Rabi*		*Total cropped area (T. acres)*
Percentage	*Total area (T. acres)*	*Percentange of principal crops*	*Total area (T. acres)*	*Percentage of principal crops*	*Total area (T. acres)*	
		Paddy		*Others*		
			(*average for 1941-42 to 1950-51*)			
2.5	0.4	96.7	16.5	0.8	0.2	17.1
			(*average for 1951-52 to 1960-61*)			
0.6	0.1	97.7	17.7	1.7	0.3	18.1
			(*as now proposed*)			
			No change			

(b) Are there any rules for regulating crop pattern? No

14. Delta at canal head

Overall Delta (*feet*)
(*average for 1941-42 to 1950-51*)
2.6
(*average for 1951-52 to 1960-61*)
2.3
(*as now proposed*)
No change

15. (a) Number of tanks in operation in the irrigated area and the area irrigated therefrom

seven ex-*malaguzari* tanks :

(i)	Saoli tank	254 acres	
(ii)	Sonapur tank	326 ,,	
(iii)	Kapar tank	364 ,,	
(iv)	Samda tank	552 ,,	
(v)	Kesoda tank	284 ,,	
(vi)	Mokhala tank	309 ,,	
(vii)	Pathri tank	290 ,,	
	Total	2,379 ,,	area included in the C. C. A., but not in area irrigated

(b) **Number of wells in operation in the irrigated area and the area irrigated therefrom**

400 wells used for drinking water supply

16. **Quantum of river supplies available in relation to withdrawals, as of March, 1951**

Except for 3 years, the average escapage in the remaining 17 years was 2.7 T.M.C., maximum was 11.0 T. M. C. and minimum 0.19 T.M.C.

17. to 19. Not applicable

GENERAL

20. **Aspects other than irrigation and power ; water supply (month-wise), if any, required for these aspects ; financial returns**

Nil

21. Not available

22. **Main features and purpose of the scheme**

Irrigation of about 18, 000 acres of paddy

ASOLA-MENDHA TANK

Annexure I

STATEMENT SHOWING AREA IRRIGATED BY CROPS

Year	*Area irrigated by crops (acres)*			*Total*
	Perennial	*Kharif*	*Rabi*	
1941-42	500	15,900	Nil	**16,400**
42-43	100	16,200	200	**16,500**
43-44	300	17,000	Nil	**17,300**
44-45	500	17,300	,,	**17,800**
45-46	600	17,600	,,	**18,200**
46-47	500	18,200	200	**18.900**
47-48	500	18,400	300	**19,200**
48-49	600	15,300	100	**16,000**
49-50	600	14,200	600	**15,400**
50-51	Nil	15,000	Nil	**15,000**
1951-52	,,	16,300	500	**16,800**
52-53	,,	16,800	400	**17,200**
53-54	500	17,100	Nil	**17,600**
54-55	Nil	17,100	,,	**17,100**
55-56	,,	17,200	,,	**17,200**
56-57	,,	17,700	,,	**17,700**
57-58	,,	19,400	,,	**19,400**
58-59	100	16,800	,,	**16,900**
59-60	Nil	17,400	200	**17,600**
60-61	,,	21,700	2,000	**23,700**
Average for the 10 years from 1941-42 to 1950-51	**420**	**16,510**	**140**	**17,070**
Average for the 10 years from 1951-52 to 1960-61	**60**	**17,750**	**310**	**18,120**

TABLES

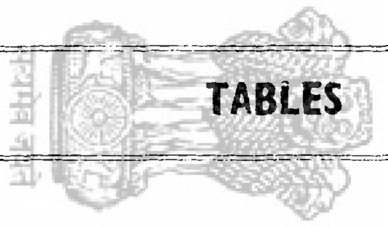

TABLE I

Abstract of major and medium schemes

Serial number	Name of scheme or project	Power installed kW.	C. C. A. or Ayacut		Average annual irrigation		Average annual diversion	
			During 1941-42 to 1950-51	During 1951-52 to 1960-61	During 1941-42 to 1950-51	During 1951-52 to 1960-61	During 1941-42 to 1950-51	During 1951-52 to 1960-61
			..................acres....................				....(T. M. C.)....	
	ANDHRA PRADESH							
1 A-G.5-A. 1	Khanapur Channels	—	10,800	10,800	8,700	10,200	2.4	2.8
2 A-G.10-A.2	Godavari Delta System	—	933,000	1,010,000	1,221,500	1,276,300	253.0	231.6
3A-G.4-A.3	Fateh Nehar	—	6,800	6,800	5,100	5,800	1.3	1.5
4A-G.4-A.4	Mahboob Nehar	—	7,500	7,500	6,200	7,800	4.5	3.6
5A-G.4-A.5	Nizamsagar Project	—	239,000	239,000	128,000	165,600	40.0	44.1
6A-G.4-A.6	Pocharam Project	—	10,000	10,000	12,700	13,500	2.7	2.4
7A-G.6-A.7	Manair Project	—	14,300	14,300	2,400	11,400	0.6	2.9
8A-G.10-A.8	Laknawaram Lake	—	7,100	7,100	5,600	5,600	1.8	1.8
	Total	—	**1,228,500**	**1,305,500**	**1,390,200**	**1,496,200**	**306.3**	**290.7**
	MADHYA PRADESH							
9A-G.9-Ma.1	Wainganga Canal	—	106,600	106,600	52,100	62,300	5.9	5.0
10A-G.9-Ma.2	Roomal Tank	—	8,000	8,000	2,900	3,900	0.2	0.3
11A-G.9-Ma.3	Chichbund Tank	—	8,500	8,500	25,00	4,900	0.3	0.4
12A-G.9-Ma.4	Bori Tank	—	13,900	13,900	5,100	6,400	0.3	0.3
13A-G.9-Ma.5	Moorum Nalla Tank	—	7,000	7,000	2,500	3,500	0.2	0.2
14A-G.9-Ma.6	Sarathi Tank	—	16,900	17,500	8,700	9,500	0.6	0.6
15A-G.9-Ma.7	Jamunia Tank	—	11,900	11,900	5,500	5,500	0.4	0.4
	Total	—	**172,800**	**173,400**	**79,300**	**96,000**	**7.9**	**7.2**

	MAHARASHTRA							
16A-G.1-M.1	Godavari Canals	—	219,000	219,000	46,600	57,400	10.3	10.9
17A-G.1-M.2	Kadwa River Works	—	36,400	36,400	5,300	4,100	1.3	1.4
18A-G.2-M 3	Pravara Canals	—	157,400	157,400	58,000	53,400	15.3	15.8
19A-G.9-M.4	Khairbanda Tank	—	27,800	27,800	9,400	9,700	0.3	0.4
20A-G.9-M.5	Chandpur Tank	—	28,700	28,700	10,200	12,100	0.6	0.5
21A-G.9-M.6	Bodalkasa Tank	—	24,300	24,300	10,000	11,800	0.3	0.4
22A-G.9-M.7	Chorkhamara Tank	—	32,700	32,700	10,900	10,800	0.4	0.4
23A-G.9-M.8	Ramtek Tank	—	91.200	91,200	13,300	17,300	1.3	1.5
24A-G.9-M.9	Ghorazari Tank	—	31,800	31,800	8,400	9,800	1.0	1.0
25A-G.8-M.10	Asola-mendha Tank	—	93,700	93,700	17,100	18,100	1.9	1.8
	Total	—	**743,00**	**743,000**	**189,200**	**204,500**	**32.7**	**34.1**
	MYSORE							
			Nil					
	ORISSA							
			Nil					
	Grand Total	—	**2,144,300**	**2,221,900**	**1,658,700**	**1,796,700**	**346.9**	**332.0**

TABLE II

Particulars of minor schemes

Serial number	Name of scheme or project	Name of sub-basin	Capacity tanks (M. Cft.)	Capacity diversion schemes (cusecs)	C. C. A. or Ayacut (acres)	Area irrigated (acres)		
						Average of 1941-42 to 1950-51	Average of 1951-52 to 1960-61	During 1959-60 or 1960-61
1	2	3	4	5	6	7	8	9
	ANDHRA PRADESH				Ayacut			
	Adilabad district							
1.	Large tank (443)	G.5 Middle Godavari	N. A.	—	737	1,091	1,102	1,277
2.	Jowlynala Project (444)	,,	—	N. A.	2,689	3,937	4,107	3,967
3.	Laxmanchanda Project	,,	N. A.	—	745	784	878	962
4.	Thorri cheru	G. 9 Pranhita	,,	—	624	419	512	492
	Total				**4,795**	**6,231**	**6,599**	**6,698**
	East Godavari district							
1.	Patruni tank (6)	G. 10 Lower Godavari	18	—	576	532	594	543
2.	Raju or Pedda tank (8)	,,	71	—	1,102	982	992	1,015
3.	Baddiraddivani tank	,,	12	—	507	475	515	502
4.	Kurmanna tank (9)	,,	N. A.	—	596	N. A.	523	525
5.	Peddapatruni tank(15)	,,	,,	—	1,841	1,490	1,495	1,514
6.	Konetivari tank (21)	,,	63	—	835	N. A.	692	687
7.	Adusumilli Vankayya tank (27)	,,	N. A.	—	535	522	550	551
8.	Narayana tank	,,	,,	—	487	N. A.	584	583
9.	Isukupallivari tank	,,	26	—	610	554	629	620
	Total				**7,089**	**4,555**	**6,574**	**6,540**

Karimnagar district

1.	Pedda cheroo (2857)	G. 6. Maner	215	—	1,267	560	507	339
2.	Manthany cheroo (3631)	G. 5 Middle Godavari	N. A.	—	1,200	727	740	743
3.	Pedda cheroo (3903)	G. 6 Maner	288	—	1,492	747	1,353	1,225
4.	Pedda cheroo (4338)	,,	N. A.	—	835	515	612	741
5.	Chegaon Project(4577)	G. 5 Middle Godavari	81	—	1,000	243	562	657
6.	Pedda cheroo (4804)	G. 6 Maner	N. A.	—	647	230	543	531
7.	Pedda cheroo (5195)	,,	,,	—	560	442	492	557
8.	Pedda cheroo (5290)	,,	,,	—	553	558	401	302
9.	Shanigram Project	,,	1,000	—	3,400	1,800	3,400	5,356
10.	Oora cheroo (5831)	,,	,,	—	506	145	369	227
11.	Singa Sundram Nala (6284)	,,	—	379	3,105	450	462	551
12.	Gudi cheroo (6742)	,,	55	—	636	557	586	646
13.	Pedda cheroo (6950)	,,	N. A.	—	606	417	544	608
14.	Akkapally cheroo (6991)	,,	,,	—	1,000	428	423	131
15.	Beli cheroo (7031)	,,	69	—	518	616	639	680
16.	Pedda cheroo (7387)	,,	N. A.	—	648	394	397	377
17.	Pedda cheroo	G. 5. Middle Godavari	,,	—	635	663	663	663
18.	Yeshwantharaopet Project	G. 6. Maner	N. A.	—	1,000	150	161	90
19.	Mutharam tank	,,	,,	—	559	173	205	22
20.	Chinna cheruvu	,,	,,	—	500	597	489	363
21.	Namilikonda Project	,,	,,	—	670	195	235	74
22.	Large tank Kothapalli V	,,	,,	—	553	340	302	350
23.	Large tank Mustabad V	,,	,,	—	561	302	153	105
24.	Large tank Illasagar V. (Sircilla Tq.)	G. 6. Maner	N. A.	—	782	466	570	620
25.	Stambal cheruvu	,,	45	—	1,400	134	373	451
26.	Large tank Jilliaram V.	G. 5. Middle Godavri	N. A.	—	587	179	168	216
27.	Pedda cheruvu Vinavanka V.	G. 6. Maner	,,	—	547	548	340	288
28.	Large and small tank	,,	69	—	970	901	845	920
29.	Gudap cheruvu	G. 10. Lower Godavari	86	—	791	Nil	Nil	Nil
30.	Large tank Illasagar V. (Manthani Tq.)	G. 6. Maner	N. A.	—	668	N, A.	264	264

Table II *(continued)*

Particulars of minor schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M. C. ft.)*	*Capacity diversion schemes (cusecs)*	*C. C. A. or Ayacut (acres)*	*Area irrigated (acres)*		
						Average of 1941-42 to 1950-51	*Average of 1951-52 to 1960-61*	*During 1959-60 or 1960-61*
1	2	3	4	5	6	7	8	9
31.	Pedda cheroo Palaram	G. 6 Maner	131	—	Ayacut 870	633	758	664
32.	Large tank Mahadevpur V.	,,	N. A.	—	600	581	618	630
	Total				**29,666**	**14,691**	**18,174**	**19,391**
	Khammam district							
1.	Singabhupalam Project (25)	G. 10. Lower Godavari	N.A.	—	1,800	N. A.	1,676	1,585
2.	Thummal cheruvu	,,	,,	—	1,404	1,309	1,574	1,638
3.	Venkamma cheruvu	,,	,,	—	1,000	N. A.	N. A.	N. A.
4.	Kothur cheruvu (90)	,,	,,	—	560	55	55	55
	Total				**4,764**	**1,364**	**3,305**	**3,278**
	Medak district							
1.	Pedda cheru (1)	G. 4. Manjra	N. A.	—	569	494	507	556
2.	Pedda cheru (62)	,,	,,	—	627	612	630	737
3.	Pedda cheru (73)	,,	,,	—	674	389	407	470
4.	Pedda cheru Toopran V.	,,	61	—	538	N. A.	437	531
5.	Pedda cheru Dharmajpet	,,	N. A.	—	508	412	531	470
6.	Pedda cheru (622) (Rudravam)	,,	,,	—	558	190	230	227
7.	Pedda cheroo Ragnavpur	,,	,,	—	677	206	349	195
8.	Komati cheruvu (141)	,,	,,	—	525	392	442	412
9.	Pedda cheroo (111) (Pothareddipet)	G. 6. Maner	N. A.	—	735	645	776	711

10.	Large tank Malkapur	G. 4. Manjra	N.A.	—	1,072	1,799	2,170	2,012
11.	Pedda cheroo	,,	,,	—	779			
12.	Rayan talab	,,	,,	—	663	434	818	951
13.	Devathula Cheruvu	,,	,,	—	700	595	651	681
14.	Large tank Ambajipet V.	,,	,,	—	936	800	973	893
15.	Hyderi talab	,,	,,	—	856	1,081	1,065	895
16	Large tank Komboor	,,	,,	—	1,014	988	1,004	1,011
17.	Yousuff cheruvu	,,	,,	—	525	485	489	456
	Total				**11,956**	**10,016**	**11,479**	**11,208**
	Nizamabad district							
	Kala Talab (63)	G. 4. Manjra			Ayacut merged in Nizamsagar project			
	Pandu Talab (72)	,,						
	Bellel tank (73)	,,						
	Kamka talab (82)	,,						
	Masani tank (9)	G. 5. Middle Godavari						
1.	Large tank Kanjeer V.	G. 5. Middle Godavari	N. A.	—	819	N. A.	1,169	1,219
2.	Matt Kalva (215)	,,	—	35	531	591	613	617
3.	Large. tank Indalwani V. (251)	,,	N. A.		1,140	N. A.	830	874
4.	Koti cheroo	,,	,,	—	631	951	993	1.007
5.	Peddacheru (102)	G. 4. Manjra	50	—	724	577	562	N. A.
6.	Pedda cheru (89)	G. 6. Maner	N. A.	—	1,786	N. A.	1,445	2,181
7.	Pedda cheru Bibipet	,,	,,	—	2,296	,,	1,293	1,293
8.	Pedda cheru (415)	,,	,,	—	970	,,	678	896
9.	Pedda cheru (423)	,,	,,	—	812	,,	356	665
10.	Oora cheru (432)	,,	52	—	943	,,	N. A.	N. A.
11.	Musalamma cheruv (142)	G. 5. Middle Godavari	159	—	773	1,031	1,197	1,358
12.	Pedda cheruv (307)	G. 6. Maner	N. A.	—	808	N. A.	610	827
13.	Bada Talab (102)	G. 4. Manjra	60	—	927	980	981	1,071
	Large tank Branmanapalli	,,			Ayacut merged in Nizamsagar project			
14.	Large tank Manchippa	G. 5. Middle Gopavari	341	—	549	N.A.	504	601
	Pedda cheroo Makloor V.	,,			Ayacut merged in Nizamsagar Project			

Table II (*continued*)

Particulars of minor schemes

Serial number	*Name of scheme*	*Name of sub-basin*	*Capacity tanks (M. Cft.)*	*Capacity diversion (Cusecs)*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)* Average of 1941-42 to 1950-51		
						Average of 1941-42 to 1950-51	*Average of 1951-52 to 1960-61*	*During 1959-60 or 1960-61*
1	2	3	4	5	6	7	8	9
	Large tank Gundaram	G. 5 Middle Godavari	Ayacut merged in Nizamsagar project					
	Large tank Narkoda V.	,,						
15.	Nawab talab	,,	63	—	501	853	853	910
16.	Large tank Belkunta	,,	88	—	731	1,087	1,240	1,252
17.	Large tank Khudavandpur	,,	208	—	932	2,173	2,173	2,173
18.	Chowder cheroo	G. 4. Manjira	81	—	501	462	477	N. A.
19.	Nala and Oora cheroo	,,	105	—	733	629	752	752
	Large tank Yellareddy V.	,,			Ayacut merged in Nizamsagar project			
20.	**Large tank** Kammareddy V.	,,	175	—	1,312	N. A.	987	1,075
21.	Nalla cheroo	,,	N. A.	—	542	340	538	742
22.	Kalki cheroo	,,	89	—	675	813	1,023	724
23.	Singtham Reservoir	,,	212	—	503	921	845	898
	Total				**20,139**	**11,408**	**20,119**	**21,135**
	Warangal district							
1.	B. tank (72)	G. 6. Maner	82	—	1,227	182	175	N. A.
2.	Pedda cheroo (323)	,,	167	—	804	648	705	745
3.	Badri tank (460)	,,	151	—	1,268	904	929	953
4.	Large tank (602)	,,	320	—	2,367	983	1,092	1,276
5.	Large tank (730)	,	133	—	868	517	656	946
6.	Large tank (748)	,,	388	—	2,054	N. A.	N. A.	1,163

7.	Domapallecheruvu tank (810)	G. 6. Maner	77	—	1,300	N. A.	N. A.	N. A.
8.	House Buzur tank (383)	,,	N. A.	—	1.004	,,	,,	,,
9.	Large tank (949)	,,	,,	—	1,465	,,	,,	,,
10.	Muppawani cheroo (1148)	,,	,,	—	527	,,	,,	,,
11.	Large tank Irakam (1327)	,,	,,	—	1,620	1,034	1,034	1,034
12.	Ramannagudem tank (1384)	,,	76	—	619	N. A.	N. A.	N.A.
13.	Ghanpoor lake (1543)	,,	1,478	—	3,097	1.669	3,095	5,011
14.	Locam cheroo (1588)	,,	N. A.	—	719	941	1,014	1,025
15.	Large tank Hasanparthy V.	G. 6. Maner	24	—	561	187	174	229
16.	Large tank Konsanparthy V.	,,	105	—	539	368	350	281
17.	Pedda cheruvu Malkampalle	,,	49	—	520	40	211	233
18.	Pedda cheruvu Madlkonda V.	,,	N. A.	—	604	328	489	511
19.	Mylavaram Large tank	,,	,,	—	2,512	524	653	738
20.	Large tank Gogillapur	,,	82	—	680	Nil	179	N. A.
21.	Large tank Jangalpalle V.	,,	113	—	801	N. A.	N. A.	N. A.
22.	Oora cheruvu Jakaram	,,	33	—	516	116	152	168
23.	Large tank Koiyagudem	,,	26	—	513	N. A.	N. A.	N. A.
24.	Banjar Kunta	,,	N. A.	—	611	576	583	585
25.	Enchen cheruvu	,,	,,	—	951	428	478	548
26.	Large tank Kottapur V.	,,	177	—	1,390	N. A.	N. A.	N. A.
27.	Ramappa Lake	,,	2,910	—	4,100	5,200	5,900	7,444
	Total				**33,237**	**14,645**	**17,869**	**22,890**
	Grand Total for Andhra Pradesh				**111,646**	**62,910**	**84,119**	**91,140**

Table II (*continued*)

Particulars of Minor Schemes

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M. Cft.)*	*Capacity diversion Scheme (Cusecs)*	*C. C. A. or Ayacut (acres)*	*Area irrigated (acres)* Average of 1941-42 to 1950-51	*Area irrigated (acres)* Average of 1951-52 to 1960-61	*Area irrigated (acres)* During 1959-60 or 1960-61
1.	2.	3.	4.	5.	6.	7.	8.	9.
	MADHYA PRADESH							
	Balaghat district							
1.	Pathree tank	G. 9. Pranhita	50		1,700	1,100	1,100	1,364
2.	Kamptee tank	-do-	40		1,000	400	500	499
3.	Dookaria Chapa Nala	-do-	30		3,000	1,000	1,100	1,248
4.	Doorlee tank	-do-	40		1,200	600	700	713
5.	Doongar Bodi tank	-do-	40		1,800	700	700	767
6.	Borikedo tank	-do-	40		2,000	1,000	1,100	1,317
7.	Wara main & wara Tar	-do-	30		6,200	800	1,800	1,936
8.	Jam Mohgaon tank	-do-	60		2,300	1,400	1,500	1,539
9.	Kutri Nala tank	-do-	30		2,600	200	300	409
10.	Katang jheri Tank	-do-	130		3,800	1,600	1,300	1,500
	Total		490		**25,600**	**8,800**	**10,100**	**11,292**
	Seoni district							
1.	Usri tank	-do-	10		600	—	400	451
	Total for Madhya Pradesh				**26,200**	**8,800**	**10,500**	**11,743**
	MAHARASHTRA							
	Bhandara district				C.C.A.			
1.	Gamdon tank	G. 9. Pranhita	47		2,258	1,001	1,200	1,213
2.	Pangli tank	,,	88		6,336	1,651	2,167	2,130
3.	Saedpur tank	,,	21		914	141	250	250
4.	Kumbhali tank	,,	26		1,006	(400)	400	389
5.	Kudwa	,,	25		632	(506)	506	N.A.
6.	Nav Talas at Kordi	,,	26		659	(525)	525	,,
7.	Chandori	,,	38		692	(260)	260	,,
8.	Amgaon	,,	30		744	595	595	595

9.	Walmazari	G. 9 Pranhita	15	377	302	302	302
10.	Bargaon	,,	28	708	566	566	566
11.	Pimpalgaon	,,	30	739	591	591	591
12.	Mahurkuda	,,	27	670	536	536	536
13.	Nawegaon bandh	,,	1,055	17,139	1,630	1,630	1,630
14.	Zadgaon (Senai bandh)	,,	411	6,631	1,462	1,462	1,462
15.	Uwari	,,	32	809	647	647	647
16.	Parsodi	,,	47	1,175	940	940	940
17.	Sondar	,,	45	833	610	610	610
18.	Khodseoni	,,	15	290	290	290	290
19.	Kasmatandi	,,	27	611	573	537	537
20.	Kokadi	,,	25	625	500	500	500
21.	Wadgaon Bandhal	,,	24	625	500	(500)	N.A.
	Total			**44,473**	**14,190**	**15,014**	
	Chanda district						
1.	Khairee tank	G. 9 Pranhita	136	2,135	728	848	894
2.	Naleshwar tank	,,	395	12,437	3,395	4,188	4,671
3.	Kuserla tank	,,	83	6,309	933	1,159	1,096
4.	Kangnara tank	,,	88	1,958	1,427	1,527	1,559
5.	Rudrapur tank	,,	41	828	110	142	162
6.	Chindhi	,,	29	1,253	270	331	431
7.	Gharmoshi	,,	81	2,301	831	955	1,056
8.	Pawanpur	,,	157	775	448	461	465
9.	Junola	,,	66	2,414	347	482	623
10.	Margaon	,,	60	571	106	174	214
11.	Rajoli	,,	97	2,271	700	N.A.	N.A.
12.	Samda	,,	13	589	552	,,	,,
13.	Mondala	,,	34	537	514	,,	,,
14.	Navargaon	,,	39	736	736	,,	,,
15.	Alewasni	,,	90	1,885	953	,,	,,
16.	Ratanpur	,,	32	566	518	,,	,,
17.	Shioni	,,	31	606	545	,,	,,
18.	Sakhara	,,	26	650	519	,,	,,

Table II (*Continued*)

Particulars of Minor Scheme

Serial number	*Name of scheme or project*	*Name of sub-basin*	*Capacity tanks (M. Cft.)*	*Capacity diversion scheme (Cusecs)*	*C. C. A. or Ayacut (acres)*	*Area irrigated (acres)* Average of 1941-42 to 1950-51	*Area irrigated (acres)* Average of 1951-52 to 1960-61	*Area irrigated (acres)* During 1959-60 or 1960-61
1.	2.	3.	4.	5.	6.	7.	8.	9.
19.	Ghadchiroli	G. 9. Pranhita	26		820	525	N.A.	N.A.
20.	Ghot	"	30		1,000	616	"	"
	Total		1,554		**40,641**	**14,773**		
	Nasik district							
21.	Kasaba Sukena Bandhara	G.1. Upper Godavari	—	10	877	605	605	605
22.	Rajapur Bandhara	"	—	12	877	777	780	780
23.	Khirdi Satne tank	"	91	10	1,400	769	497	672
	Total		**91**		**3,154**	**2,151**	**1,882**	**2,057**
	Grand Total for Maharashtra				**88,268**			
	MYSORE							
		Nil						
	ORISSA							
	Koraput district				**Ayacut**			
1.	Semalguda	N.A.	N.A.	N.A.	538	N.A.	N.A.	N.A.
2.	Borigumma	"	"	"	614	"	"	"
3.	Dengakuni	"	"	"	661	"	"	"
4.	Minigudi	"	"	"	661	"	"	"

5	Haligudi	N.A.	N.A.	N.A.	661	N.A.	N.A.	N.A.
6	Bitraphej	,,	,,	,,	614	,,	,,	,,
7	Nowrangpur	,,	,,	,,	538	,,	,,	,,
8	Sagarmunda	,,	,,	,,	538	,,	,,	,,
9	Dudra	,,	,,	,,	1,075	,,	,,	,,
10	Kotpad	,,	,,	,,	768	,,	,,	,,
11	Menjhar	,,	,,	,,	1,229	,,	,,	,,
12	Korkot	,,	,,	,,	614	,,	,,	,,
13	Jeypore	,,	,,	,,	1,920	,,	,,	,,
14	Hatigamn	,,	,,	,,	768	,,	,,	,,
15	Bhatigam	,,	,,	,,	768	,,	,,	,,
	Total				11,967			

This does not include lift irrigation along Indravati and Bhaskel river banks and other Irrigation Projects under Agriculture Department.

TABLE III

Particulars of small tanks and diversions

Serial number	Name of district	Name of sub-basin	Number of tanks & diversions	C.C.A or Ayacut (acres)	Area irrigated (acres)		
					Average of 1941-42 to 1950-51	Average of 1951-52 to 1960-61	During 1959-60 or 1960-61
1	2	3	4	5	6	7	8
	ANDHRA PRADESH						
1.	Adilabad	53% in G. 5 Middle Godavari 38% in G. 9 Pranhita 9% in G. 7 Penganga	1,374	37,206	N.A.	N.A.	N.A.
2.	East Godavari	82% in G. 10 Lower Godavari 18% in G. 12 Sabari	340	18,723	,,	,,	,,
3.	Karimnagar	57% in G. 6 Maner 31% in G. 5 Middle Godavari 12% in G. 10 Lower Codavari	4,746	159,078	,,	,,	,,
4.	Khammam	G. 10 Lower Godavari	547	18,555	,,	,,	,,
	(Bhadrachalam and Nugur Taluqa)		70	3,262	,,	,,	,,
5.	Medak	75% in G. 4 Manjra 25% in G. 6 Maner	5,158	158,010	,,	,,	,,
6.	Nizamabad	48% in G. 5 Middle Godavari 41% in G. 4 Manjra 11% in G. 6 Maner	1,562	81,214	,,	,,	,,
7.	Visakhapatnam	G. 12 Sabari	1	N.A.	,,	,,	,,
8.	Warangal	64% in G. 10 Lower Godavari 36% in G. 6 Maner	1,749	62,871	,,	,,	,,
	Total		**15,547**	**538,919**			

Figures in column 4 and 5 exclude particulars of small tanks and diversions merged in major and medium projects,

	MADHYA PRADESH			C.C.A.			
1.	Balaghat	G. 9 Pranhita	5,650	85,000	N.A.	71,810	84,330
2,	Bastar	72% in G. 11 Indravati 16% in G. 12 Sabari 12% in G. 10 Lower Godavari	1,890	30,000	,,	24,830	18,450
3.	Chhindwara	98% in G. 9 Pranhita 2% in G. 8 Wardha	30	600	,,	320	530
4.	Durg	60% in G. 11 Indravati 40% in G. 9 Pranhita	740	7,000	,,	3,630	2,990
5.	Seoni	G. 9 Pranhita	770	21,000	,,	13,770	13,230
	Total		**9,080**	**143,600**		**114,360**	**119,530**

Only district-wise statistics are available. So the number of tanks and the area irrigated by them in Godavari basin has been taken in the proportion, the area in Godavari basin bears to the area of the entire district.

	MAHARASHTRA						
1.	Ahmednagar	56% in G. 2 Pravara 44% in G. 1 Upper Godavari and less than in G. 4 Manjra	17	C.C.A. 1,925	N.A.	N.A.	137
2.	Akola	87% in G. 7 Penganga 13% in G. 8 Wardha	1	202	47	85	101
3.	Bhandhara	G. 9 Pranhita	3,223	405,698	N.A.	242,217	242,670
4.	Buldhana	51% in G. 7 Penganga 49% in G. 3 Purna	1	300	,,	115	120

Note : The percentages in column 3 denote percentages of that part of the district named in column 2 which lies in the Godavari basin.

Table III (*continued*)

Particulars of small tanks and diversions

Serial number	*Name of district*	*Name of sub-basin*	*Nubmer of tanks & diversions*	*C.C.A. or Ayacut (acres)*	*Area irrigated (acres)*		
					Average of 1941-42 to 1950-51	*Average of 1951-52 to 1960-61*	*During 1959-60 or 1960-61*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
				C.C.A.			
5.	Chanda*	57% in G. 9 Pranhita 25% in G. 11 Indravati 17% in G. 8 Wardha 1% in G. 10 Lower Godavari	3,461	145,600	N.A.	116,500	N.A.
6.	Nagpur	67% in G. 9 Pranhita 33% in G. 8 Wardha	175	10,018	„	8,014	„
7.	Nanded*	31% in G. 1 Upper Godavari 30% in G. 7 Penganga 33% in G. 4 Manjra 6% in G. 6 Middle Godavari	480	1,141	991	919	919
8.	Nasik	97% in G. 1 Upper Godavari 3% in G. 2 Pravara	203	23,165**	N.A.	N.A.	N.A.
	Total		**7,561**	**588,049**			

**There are also several Malguzari (one-man) tanks in these districts for which information is not readily available.*

***There are 194 II Class Bandharas having irrigable area of 18,532 acres.*

	MYSORE			Ayacut			
1.	Bidar	G. 4 Manira **average for 1952-53 to 1958-59*	22	N.A.	N.A.	1,069*	N.A.
	ORISSA						
1.	Koraput	57% in G. 12 Sabari 43% in G. 11 Indravati	128	20,526	N.A.	N.A.	N.A.

TABLE IV

TABLE IV

Abstract of minor schemes, small tanks and diversions

State/ District	*Minor schemes as per Table II*			*Small tanks and diversions as per Table III*			*Total*		Duty (acres per M.Cft.)	Average annual diversion (T.M.C.)
	Number	*C. C. A. or Ayacut*	*Average annual irrigation 1951-52 to 1960-61*	*Number*	*C. C. A. or Ayacut*	*Average annual irrigation 1951-52 to 1960-61*	*C. C. A. or Ayacut*	*Average annual irrigation 1951-52 to 1960-61*		
1	2	3	4	5	6	7	8	9	10	11
		......*acres*........			..................*acres*....................					
		Ayacut			**Ayacut**		**Ayacut**			
ANDHRA PRADESH										
Adilabad	4	4,795	6,599	1,374	37,206	36,420	42,001	(43,019)	6	7.17
East Godavari	9	7,089	6,574	340	18,723	17,394	25,812	23,968	6	3.99
Karimnagar	32	29,666	18,174	4,746	159,078	116,688	188,744	(134,862)	6	22.48
Khammam	4	4,764	3,305	547	18,555	12,145	26,581	(15,450)		3.12
Bhadrachalam and Nugur Taluqs				70	3,262	3,262		3,262	6	
Medak	17	11,956	11,479	5,158	158,010	137,221	169,966	148,700	6	24.78
Nizamabad	23	20,139	20,119	1,562	81,214	93,605	101,353	(113,724)	6	18.95
Visakhapatnam	—	—	—	1	N.A.	N.A.	N.A.	N.A.		
Warangal	27	33,237	17,869	1,749	62,871	51,131	96,108	(69,000)	6	11.50
Total	**116**	**111,646**	**84,119**	**15,547**	**538,919**	**467,866**	**650,565**	**(551,985)**		**91.99**

(Figures in brackets are assumed figures)

Notes : 1. *The assumed figures in col. 9 have been derived from col. 11 of the district-wise statistics in Table V. The latter has been suitably reduced to allow for irrigation from schemes which have come into operation after March 1951.*

2. *Figures in col. 7 have been derived from col. 9 and col. 4.*

3. *The duty (acres per M. Cft.) is based on Table VI and the assumption that irrigation in Telengana is generally 80 percent Abi and 20 percent Tabi. The same figure has been assumed for East Godavari district, also as it is adjacent to the Telengana area and is benefitted by the North-East monsoon.*

4. *It has been presumed that there has been no change in the Ayacut since 1941.*

5. *The average annual diversion for 1941-42 to 1950-51 has been worked out in col. 7 of the statement at the beginning of this Annexure roughly in the same ratio as the average annual diversion for 1951-52 to 1960-61 bears to the average annual irrigation during that decade.*

MADHYA PRADESH		**C.C.A.**			**C.C.A.**		**C.C.A.**			
Balaghat	10	25,600	10,100	5,650	85,000	71,810	110,600	81,910	9/10*	8.30
Bastar	—	—	—	1,890	30,000	24,830	30,000	24,830	10	2.48
Chhindwara	—	—	—	30	600	320	600	320	10	0.03
Durg	—	—	—	740	7,000	3,630	7,000	3,630	10	0.36
Seoni	1	600	400	770	21,000	13,770	21,600	14,170	10	1.42
Total	**11**	**26,200**	**10,500**	**9,080**	**143,600**	**114,360**	**169,800**	**124,860**		**12.59**

*Duty is 9 for minor schemes and 10 for small tanks and diversions.

Notes : 1. *It has been presumed that there has been no change in the C.C.A. since 1941.*

2. *The average annual irrigation during 1941-42 to 1950-51 by small tanks and diversions has been assumed to be the same as the average annual irrigation during 1951-52 to 1960-61.*

3. *The average annual diversion for 1941-42 to 1950-51 has been worked out in col. 7 of the statement at the beginning of this Annexure roughly in the same ratio as the average annual diversion for 1951-52 to 1960-61 bears to the average annual irrigation during that decade.*

Table IV (*continued*)

Abstract of minor schemes, small tanks and diversions

State/ District	*Minor schemes as per Table II*			*Small tanks and diversions as per Table III*			*Total*		*Duty (acres per M. Cft.)*	*Average annual diversion (T.M. C.)*
	Number	*C. C. A. or Ayacut*	*Average annual irrigation 1951-52 to 1960-61*	*Number*	*C. C. A. or Ayacut*	*Average annual irrigation 1951-52 to 1960-61*	*C. C. A. or Ayacut*	*Average annual irrigation 1951-52 to 1960-61*		
1	2	3	4	5	6	7	8	9	10	11
		..........*acres*........			................*acres*..................					
MAHARASHTRA		C.C.A.			C.C.A.		C.C.A.			
Ahmednagar	—	—	—	17	1,925	(1,400)	1,925	(1,400)	17.5	0.08
Akola	—	—	—	1	202	85	202	85	15	0.01
Bhandhara	21	44,473	15,014	3,223	405,698	242,217	450,171	257,231	20	12.86
Buldana	—	—	—	1	300	115	300	115	15	0.01
Chanda	20	40,641	(18,000)	3,461	145,600	116,500	186,241	34,500	15	8.97
Nagpur	—	—	—	175	10,018	8,014	10,018	8,014	15	0.53
Nanded	—	—	—	480	1,141	919	1,141	919	25	0.04
Nasik	3	3,154	1,882	203	23,165	(16,000)	26,314	17,882	17.3	1.03
Total	**44**	**88,268**	**34,896**	**7,561**	**588,049**	**385,250**	**676,317**	**420,146**		**23.52**

(Figures in brackets are assumed figures)

Notes : *1. The average annual irrigation in Chanda district has been derived from the total C.C.A. of all the minor schemes in the district in the same ratio as the total of the average annual irrigation of schemes for which data is available bears to the total C.C.A. of those schemes.*

2. The average annual irrigation in Ahmednagar and Nasik districts have been derived from the respective C.C.A. in the same ratio as the total average annual irrigation of all other districts bear to the total C.C.A. of those districts.

3. *It has been presumed that there has been no change in the C.C.A. since 1941.*
4. *The average annual diversion for 1941-42 to 1950-51 has been worked out in col. 8 of the statement at the beginning of this Annexure roughly in the same ratio as the average annual diversion for 1951-52 to 1960-61 bears to the average annual irrigation during that decade.*

		Ayacut			*Ayacut*			*Ayacut*		
MYSORE										
Bidar	—	—	—	22	(1,069)	1,069	1,069	1,069	5	0.21

(Figures in brackets are assumed figures)

Notes :

1. *The Ayacut of small tanks and diversions has been assumed to be the same as the average annual irrigation.*
2. *It has been presumed that there has been no change in Ayacut since 1941.*
3. *The average annual irrigation and the average annual diversion during 1941-42 to 1950-51 in col. 5 and col. 8 of the statement at the beginning of this Annexure have been assumed to be the same as corresponding figures for 1951-52 to 1960-61.*

ORISSA										
Koraput	15	11,967	(6,000)	128	20,526	(11,000)	32,493	(17,000)	12	1.42

(Figures in brackets are assumed figures)

Notes :

1. *The average annual irrigation in col. 9 is based on district statistics.*
2. *The average annual irrigation in col. 4 and col. 7 are derived from col. 9 roughly in proportion to the Ayacut.*
3. *It has been presumed that there has been no change in Ayacut since 1941.*
4. *The average annual irrigation and the average annual diversion during 1941-42 to 1950-51 in col. 5 and col. 8 of the statement at the beginning of this Annexure have been assumed to be the same as corresponding figures for 1951-52 to 1960-61.*

Grand Total	**186**	**238,081**	**135,515**	**32,338**	**1,292,163**	**979,545**	**1,530,244**	**1,115,060.**	**129.74**

TABLE V

Ayacut and area irrigated by minor schemes, small tanks and diversions in Andhra Pradesh

Serial number	District	*Ayacut of schemes*							*Area irrigated*		
		in operation as on 31st March, 1951			*which came into operation after March 1951*						
		Minor Schemes	*Small tanks and diversions*	*Total*	*Minor Schemes*	*Small tanks and diversions*	*Total*	*Grand Total*	*Average for 1941-42 to 1950-51*	*Average for 1951-52 to 1960-61*	*During 1959-60 or 1960-61*
1	2	3	4	5	6	7	8	9	10	11	12
		....acres..									
1	Adilabad	4,795	37,206	42,001	—	8,507	8,507	50,508	40,538	45,019	52,448
2	East Godavari	7,089	18,723	25,812	—	—	—	25,812	N.A.	23,968	24,143
3	Karimnagar	29,666	159,078	188,744	4,978	39,869	44,847	233,591	119,964	174,862	206,341
4	Khammam	4,764	18,555	23,319	—	14,764	14,764	38,083	9,160	32,450	22,110
	Bhadrachalam & Nugur Tqs.	—	3,262	3,262	—	—	—	3,262	3,262	3,262	3,262
5	Medak	11,956	158,010	169,966	—	—	—	169,966	91,140	148,700	179,600
6	Nizamabad	20,139	81,214	101,353	—	2,509	2,509	103,862	155,761	114,724	125,243
7	Visakhapatnam	—	N.A.	N.A.	—	—	—	N.A.	—	—	—
8	Warangal	33,237	62,871	96,108	—	27,972	27,972	124,080	35,850	89,000	103,800

Notes: 1. *Figures in column 10 are averages of 1941-42, 1944-45, 1948-49, 1949-50 and 1950-51.*

2. *Figures in column 11 are averages of 9 years (1951-52 to 1959-60).*

3. *Figures in column 12 are for 1959-60.*

TABLE VI

Crop pattern and Duty, district-wise

Sl. No.	*State/ District*	*Average annual rainfall (inches)*	*Corp pattern*	*Duty (acres per M. Cft)*
1.	2.	3.	4.	5.
ANDHRA PRADESH				
1.	ADILABAD	39.4	*Abi* and *Tabi*	6.67 for *Abi* 3.33 for *Tabi*
2.	EAST GODAVARI	43.3	1 Crop Paddy	5
3.	KARIMNAGAR	38.4	,,	6.67 for *Abi* 3.33 for *Tabi*
4.	KHAMMAM	41.3	,,	,,
5.	MEDAK	33.5	,,	,,
6.	NALGONDA	28.5	,,	,,
7.	NIZAMABAD	39.4	,,	,,
8.	VISAKHAPATNAM	45.3	,,	5
9.	WARANGAL	41.3	*Abi* and *Tabi*	6.67 for *Abi* 3.33 for *Tabi*
MADHYA PRADESH				
1.	BALAGHAT	63.0	96.5% *Kharif* and 3.5% *Rabi* for minor schemes.	9
			100% *Kharif* for small tanks and diversions	10
2.	BASTAR	59.1	100% *Kharif*	10
3.	CHHINDWARA	45.3	,,	10
4.	DURG	51.2	,,	10
5.	SEONI	55.1	,,	10
MAHARASHTRA				
1.	AHMEDNAGAR	25.6	*Kharif* 50% *Rabi* 50%	17.5
2.	ASOLA	33.5	*Kharif* 40% *Rabi* 40% Two seasonal 20%	15
3.	BULDANA	33.5	*Kharif* 40% *Rabi* 40% Two seasonal 20%	15
4.	CHANDA	55.1	*Kharif* 90% *Rabi* 5% Other crops 5%	15
5.	NAGPUR	46.3	*Kharif* 40% *Rabi* 60%	15
6.	NANDED	39.4	*Kharif* 33% *Rabi* 67%	25
7.	NASIK	39.4	*Rabi* 100%	17.3
MYSORE				
1.	BIDAR	35.4	Paddy	5
ORISSA				
1.	KORAPUT	59.1	Paddy	12

सत्यमेव जयते